

WORLD'S LEADING SCIENCE-FICTION MAGAZINE

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AMAZING

ANC

STORIES

30th

**ANNIVERSARY
ISSUE**

Predictions for 2001 A.D...

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30th ANNIVERSARY ISSUE

AMAZING STORIES

APRIL, 1956 VOL. 30 NO. 4

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"...congratulations on your 30th year. I've been with you for twenty-five!"

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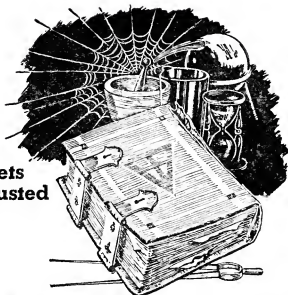
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AMAZING

STORIES

TABLE OF CONTENTS

REG. U. S. PAT. OFF.

STORIES

WANTED—7 FEARLESS ENGINEERS!	by Warner Van Lorne	8
JOHN JONES'S DOLLAR	by Harry Stephen Keeler	50
WACKY WORLD	by Edmand Hamilton	60
SOLANDER'S RADIO TOMB	by Ellis Parker Butler	76
THE DAY TIME STOPPED MOVING	by Bradner Buckner	84
THE WORLD BEYOND	by Ray Cummings	106
HARD GUY	by H. B. Carleton	136
THE RAT RACKET	by David H. Keller, M.D.	140
THE JAMESON SATELLITE	by Neil R. Jones	156
STRANGE FLIGHT OF RICHARD CLAYTON	by Robert Bloch	177
THE SWORD AND THE ATOPEN	by Taylor H. Greenfield	195
ROBOT AL 76 GOES ASTRAY	by Isaac Asimov	204
ADVANCED CHEMISTRY	by Jack G. Huekels	216
THE ETERNAL WALL	by Roymand Z. Gallun	222



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FEATURES

THE OBSERVATORY

by The Editor 6

WHAT MAN CAN IMAGINE . . .

by Sam Moskowitz 186

PREDICTIONS: 2001 A. D.

by Sid Caesar 234

by Leo Cherne 236

by Lilly Daché 238

by John Cameron Swayze 239

by Hubert J. Schlafly 239

by Gen. Carlos Romulo 240

by Oliver J. Dragon 241

by Herb Score 242

by Oliver Read 243

by William Steig 244

by Philip Wylie 245

by A. W. Zelomek 245

by Salvador Dalí 246

by Dr. N. Gonzalez 246

by Steve Allen 247

by Dr. Robert Lindner 248

CONTEST WINNERS

by Clarence W. Van Tilburg 251

by Irving Drucker 252

by B. W. Sandefur 253

AS I SEE TOMORROW . . .

by Robert Heinlein 255

Editor
HOWARD BROWNE



Managing Editor
PAUL W. FAIRMAN

Art Editor
HERBERT ROGOFF

the observatory

by The Editor



• You now hold in your hands the 30th Anniversary Issue of *Amazing Stories*. You picked it up for one or several of the following reasons: a) it was only slightly thicker than the Boston telephone directory, b) its cover was the most eye-catching item on the stand, c) you'd been looking forward to this particular issue for months, d) you were impressed by the caliber of the people whose names appeared on the right-hand portion of the cover, or e) you have nothing better to do than hang around newsstands and paw the merchandise.

Whatever the reason(s), you've got hold of it. It contains fourteen stories and one article from the files of *Amazing Stories* dating back thirty years—or more, specifically, between 1927 and 1942. In addition, it contains an imposing list of articles by world-renowned figures in almost every conceivable field of endeavor—articles with a single theme: "What will the world be like in the year 2001?"

When you finish reading this 30th Anniversary Issue, you're going to have some questions. For one thing you'll probably want to know why your particular favorites of that period were not included. Understandably, you may get a little huffy because they were left out. Let's answer that one right now.

To begin with, many of the best stories of those years were far too long to include, if we were to put together enough titles to make this collection at all representative. On other favorites, we did not control reprint rights and were unable to obtain such permission from the authors involved.

Another question you may ask is by what standard we made the selections we did. Very simply, our sole standard was how *entertaining* was the story. Frankly we were appalled by the deadly monotony of style in many of the so-called classics of the Thirties, which will explain why only three of the stories in this collection are from that period.

When, in 1938, Ray Palmer became Managing Editor of *Amazing*

Stories, the entertainment side of science fiction took over—and the result was some of the most exciting story material we've had the pleasure of floating through. Gone were the ponderous styles, the verbiage, the highly technical explanations of what mattered little in the first place. The stories took on pace and excitement, the characters in them were faced with human problems, the dialogue was realistic . . . all the factors we take for granted today. That's why nine of the fourteen stories in this issue are from the early days of Palmer's editorship.

The rest of the magazine is taken up with forecasts of what the world will be like when *Amazing Stories* brings out its Diamond Jubilee issue. A good many very prominent people were kind enough to give us their time and their imaginations—and we feel that what they had to say will be of real interest to you. What we cannot portray is the tremendous effort that went into arranging those interviews, for one does not simply telephone a man such as General Carlos Romulo, for example, and say, "Hi, General. How about my dropping around and asking you some questions about life forty-five years from now?" No, sir! You've got to go through public-relations men and women, a few secretaries, and so on—and maybe you never succeed in making the contact at all. But we kept at it with unflagging (well—almost unflagging) zeal and determination. As a result, the 30th Anniversary Issue of *Amazing Stories* features a list of distinguished contributors such as few magazines in *any* category has ever attained.

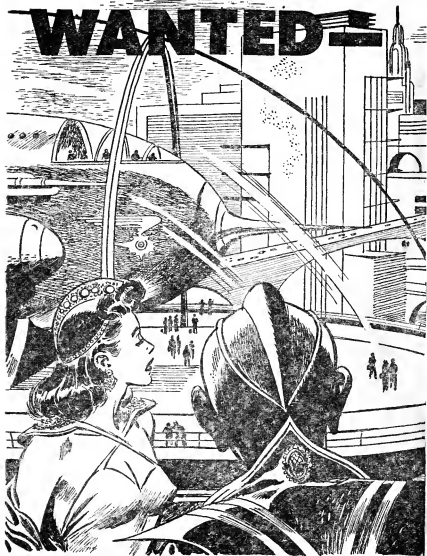
A word about the illustrations. Each is a brand-new drawing, depicting the same scene originally used when the story was first published. Altogether, there are some forty illustrations, making this issue the most heavily illustrated in our history.

It required almost four months of relentless effort to put this 30th Anniversary Issue together. Just how many hundreds of thousands of words were read by your editors, how many hours of conferences were held with printers, artists, department heads, etc., cannot be computed. The desk lamps burned far into many nights in our Madison Avenue offices, and a lot of tempers got frayed before the final okay on the final page was sent off to the printer.

But all that is behind us now. We did the best job our abilities and experience could produce, and we have no apologies to offer for the finished product. It is up to you, the buyer and reader, to judge the result. We hope each of you will write to us and give your opinions. And if you've got a few kind words around that you're not using, send them along. Brother, we need them!—HB

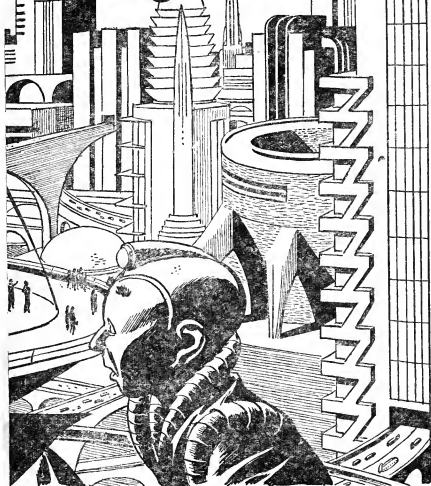
By WARNER VAN LORNE

WANTED



This civilization was advanced far

7 Fearless Engineers! [®]



beyond any the Terrans had ever seen.

Wanted— 7 Fearless Engineers!

By WARNER VAN LORNE

A great civilization's fate lay in Dick Barrow's hands as he led his courageous fellow engineers into a strange and unknown land. None of them knew what lay ahead—what dangers awaited them—or what rewards. But they did not hesitate because the first question asked them had been: "Are you a brave man?"

CHAPTER I

Opportunity

FROM where Dick Barrow sat, hundreds of men were visible, occupying benches in every manner of position. Some stretched at full length, sleeping in the morning sun after a night in the park. Others sat with heads hanging; thinking thoughts of their own.

Depression or recession, it meant the same to all of them. Some didn't care, but others tried to find any kind of work that would fill their stomachs with food.

For three days Dick hadn't eaten a good meal, and felt almost as low as the derelicts whom he had for companions. He would have enjoyed a smoke, but turned away as two men dove for a cigarette-butt; discarded by a passerby.

Anyone who could afford to buy a newspaper was an aristocrat, and Dick watched until he

saw one discarded. For three days he had been reading them secondhand, but the only jobs were too far to walk and apply for.

His eyes stopped at one item in the column and a puzzled frown slowly puckered his forehead.

Wanted: An Engineer. Young man with love for electrical and mechanical work, who is not afraid of isolation. Have some knowledge of engineering, but general experience more desirable than specialized training. Must be willing to leave country, never to return; for which he will be well remunerated. Have no close family ties, and willing to submit to certain amount of danger. Will be isolated with few members of own race, but will have great opportunity to develop mastery of huge machines. Come prepared to leave for post immediately, without preparation. Every want will be taken care of by employers. This position is for lifetime, without

opportunity of turning back after having accepted responsibility. GREAT OPPORTUNITY! Room 36, 18 W. Morgan Ave., City.

For a long time Dick Barrow gazed at the ad, mentally comparing his own qualifications for the position—and they *seemed* to fit! He was not a graduate engineer, being forced to quit school after two years of study. Three years later his father died, then Dick lost the job that had kept them eating regularly. His love of mechanics remained insatiable, and he constantly hoped for work which would allow him to use his knowledge and ability.

He had no relations, and the *only* girl had forgotten him, when he left school. He heard that she married a classmate!

Dick was twenty-seven. Five years had slipped by since he quit school, and he couldn't remember where they had gone. It was only six months after his father died that he lost his last regular job. He tried selling and was a failure. He had been carpenter's helper, plumber's helper, porter, counter-man and busboy as the months passed, but nothing steady. For the past two months he had been hunting for work, while his few dollars dwindled to where he no longer had room rent. Then it was the park.

His feet were sore and blistered from holes in his shoes, and he limped with every step. It

took so long to reach the address that there was little chance of finding the job still open. It was not the first time he had missed—for the same reason.

He found that 18 Morgan Avenue was a dreary structure, appearing as if it had been standing twenty years too long. The wooden stairs creaked as he rested his weight on first one sore foot and then the other. Room 36 was at the top of the five story building, and it seemed ages before he reached the doorway. The only sign of furnishing in the room was a hard bench, occupied by three men. Dick had to stand while his feet tortured him, but it was hopeful to see men waiting—the *job wasn't filled!*

Suddenly a door at the opposite side of the room jerked open and a man dashed through.

"Get out of here! The man's *insane!*"

Two of the men followed, but the man who remained on the bench glanced at Dick, grinned, shrugged his shoulders and entered the door. A moment later his booming voice could be heard through the thin partition, although his words were not clear.

An hour passed while Dick waited. When the man came out, with a smile on his face, he wished Dick luck and headed for the stairway.

Barrow felt a queer sensation as he stepped through the inner doorway. A man faced him in a huge leather chair across the

room. At least Dick thought he was a man. Grotesque in every way, his body was small while his head was twice as large as normal. He was light complexioned, with almost white hair thinly covering the top of his enormous head. His features were finely cut, with large aquiline nose. He was not repulsive, and smiled in welcome as Dick hesitated at the threshold. When he spoke his tone was soft and musical.

"Welcome, stranger. You have come in answer to my advertisement and I will explain without wasting time. But first tell me about yourself."

Going over his complete life history, including the two years in college, Dick came to the lean years when his father died. He hesitated slightly not proud of this period.

"Go on, Mr. Barrow. It is not important to have been a success in business, and I will not consider that in your applications. It isn't what you *have* done, but what you *want* to do, that interests me."

He spoke with a strange accent, that Dick didn't recognize. But he was pleasant and made it easy to talk.

When Barrow finished, by relating the finding of the newspaper and the long walk to the office, the queer man was smiling.

"I like your frankness and will tell you about the position, although I can't reveal the location of your work. It is not on any

map, and you will work among a race such as myself, with no opportunity of leaving after reaching the destination.

"You will be given every comfort and advantage among my people, and be required to work hard in return. There are several machines out of commission which must be repaired and put to work again. After a few months your work will be easier, although you must constantly watch all machinery to see that it is in perfect condition, and does not stop work for even a moment.

"My people use mechanics of greater size and development than anything you have ever seen, and our lives depend on its perfect operation. In order to accept this position you must be married. Your wife must come with you, and be willing to accept the same living conditions which are offered to you.

"The man who left this office as you entered has a fiancée and has gone to talk it over with her. In your instance *I must select your wife!* You will be the leader of the workmen whom I take back. There will be only a few people such as yourself, and you can never again see others of your race.

"You will have power and wealth among my people, and every type of entertainment that you desire. But remember that you leave your race forever, with *no possibility* of return! If you accept my offer you must trust

entirely in what I say about the future."

When the man finished speaking Dick was quiet for a long time. Everything seemed so unreal, so different from what he had expected. He must be willing to leave everything that he had always known—to enter an existence which he didn't understand—without chance of return! Yet he believed every word this man spoke, impossible as it seemed. But *marriage . . .* with a girl he had never *seen!*

The man spoke again. "You hesitate about marrying; I can see it in your eyes. But remember that *she* must accept without knowing you, and is taking just as great a chance. This I can say. She will be brilliant, and I *could not* trust you to pick out a brilliant woman for your wife. Love would come first in your eyes. Other things would seem unimportant. I know that you and the girl I select are apt to fall in love, as I shall choose a girl suitable to your temperament."

Dick answered slowly, "I don't know what to say. I will have to live with her all of my life, and if we are not happy anything you could offer would mean nothing."

The smile spread over the strange man's face again. "I wouldn't worry too much. I believe you could stand a greater chance of happiness if *I* do the choosing than if you do it yourself as I can see more of the future. If you are mutually lik-

able and willing to understand each other; if you are mentally on the same level, there is little chance of *not* falling in love. My race mates in this way, and it works out better than your hazardous mating."

When he realized that Dick still hesitated, he was slightly upset. Then reaching into a leather bag, hung from a strap around his neck, he stretched forth a handful of bills.

"Go and get yourself a good meal. It is now morning. When two more mornings have passed come again. Don't be afraid to use the money for anything that you desire. This does not mean that I expect you to accept the offer, but it will allow you to think it over carefully—without thinking of your *stomach*. Buy clothes, a room to sleep in, anything else that you want. Be comfortable and do not worry about what you spend. If you refuse my terms, I will be disappointed, but will not expect to be repaid."

As Dick reached the street he shook his head. It all seemed so fantastic. But the money in his hand was real money—and there was a lot of it! Suddenly he realized that people were staring at the handful of bills, and he hurriedly stuffed them in a pocket. When he was alone for a moment he stepped into a vacant doorway to count it.

There were 14 twenties, 10 fifties, and three ten dollar bills in the lot. Twenty-seven bills in

all, representing eight hundred and ten dollars. Folding the money carefully and placing it in a safe pocket, he noticed a sign across the street. "SHOES," it said. He glanced at his own, then limped slowly across when the traffic lights changed. For a moment he looked in the window, then stepped inside.

While the shoe clerk was busy he carefully slipped a twenty from the other bills. It would seem strange if he had too much money with his feet in such shape.

The next stop was a restaurant. Then followed a trip to a clothing store—and he left his old suit behind. With new clothes, shoes, and a meal beneath his belt, he began to think the offer of the stranger was far from fantastic. What if he did have to marry a strange girl? At least they would both have comfort and companionship, wherever they went.

Barrow's first appointment was on Tuesday morning, and Friday found him climbing the same stairs. He watched the papers but there had been no repetition of the advertisement. Evidently the strange man had all the applicants he wanted.

The outer office was empty, but when he opened the inner door, the queer man was smiling just as Dick remembered him.

"Come in, Mr. Barrow. I'm glad to see you. I was surprised to hear of your use of the money, but was pleased rather than disappointed. You did well."

For a moment Dick was taken back, then he smiled sheepishly. "I don't know just what to say, Sir, I did so many things. But I didn't know I was being watched."

"Every move you made was watched carefully, and reported to me. I know where you spent every hour since you left here the other morning. I wanted to know how you would act with money enough to do as you pleased for a few days. You acted wisely, and I'm glad that you spent so much of it on men who need it. You bought twenty-two pairs of shoes, thirty-six shirts and forty-five suits of underwear. You also bought cheap suits for nine men and several odd and end accessories as well.

"Out of the total sum you spent less than one hundred dollars for yourself, and yet you have only forty-two dollars of the sum I handed you. The remainder you used for meals and cheap lodging for the men you have taken care of in the past three days. You have gone through a lot of money since you were here."

Dick stammered as he spoke, "I'm sorry, sir, but I thought—"

"You thought *just right!* I did give you the money to use as you pleased and I'm proud of the way you spent it. But I want to know the answer. You must have decided by this time. If the answer is yes, you will bind yourself to a lifetime of work. If it is no, we will say goodbye."

Dick's face lighted with a

smile. "The answer is *yes*. I am proud to leave my future in your hands—even to my marriage. I made up my mind to do as you desire, and am prepared to leave any time you are ready. I hope you have hired every one you need and that we will all enjoy our new work."

"You're a brave man, Dick Barrow." There was admiration in the voice of the stranger. "If you remained here I believe you would make your mark in life, but you will have even greater opportunity where you are going. I believe your decision will prove to be a happy one."

"You must stay at a good hotel. Reasonable if you want, although it is not important. I will send the girl to you within a few days. You will be married as soon as possible after you meet her."

"She will bring a letter and will do exactly as you say. I will allow time for you to get acquainted before I have further orders. From that time you will obey my orders explicitly and follow every instruction without question. Every member of the party will take orders from you, and *you must give them!*"

Once more Dick was handed a handful of bills as he prepared to leave, and knew there was even more than the first time. But he would live in constant dread of meeting the girl he was to marry. As he started to open the door, the man spoke again.

"Use the money as you desire. It will be your last chance of

spending any and I want you to enjoy yourself as much as possible during the time remaining. Do what you like for the men in the park or any others you wish to help. If you need more money send a messenger to this room, but don't come yourself. Don't contact me again until my orders require it. Have a good time."

Dick felt that he was living a dream, but a very pleasant one. Just one thought disturbed him. Who the girl would be—and what she would be like?

CHAPTER II

Out to Sea

THE following morning an advertisement appeared in the papers, under the heading of help wanted: woman. It was the same address on Morgan Avenue. His heart sank! The man was *advertising* for a wife! Now Barrow *knew* he was in for a tough streak of luck. He read it carefully.

Opportunity for young lady. Must be of age, single, brilliant, with good family background. Higher education not necessary. Must be willing to travel long distance. Must not be averse to marriage with brilliant young man; give up all former associations, with no possibility of return; live life in small community of own race, with no possibility of communication with former home. Must be without close family ties, or relationship. Opportunity to live life of luxury

and ease, with amiable group far from present home and civilization. Young lady who fits qualifications will not regret applying for position. Honor, love and security will be her reward. OPPORTUNITY! Room 36, 18 West Morgan Avenue, City.

While Dick was eating dinner on Tuesday evening, a young lady fell headlong in front of his table. A moment later she was seated in the chair opposite his own. Ten minutes later he was ordering her dinner.

Afterward, as they walked toward a movie, Dick felt as if he was committing a crime. He was supposed to meet his future wife—and instead was entertaining this young lady who had fallen into his life. When he learned that she was staying at the same hotel, they made a date for breakfast the next morning.

Dolores Dunbar was good company, and seemed willing to spend most of her time in Dick's company. He learned that she was as friendless as himself, and wondered why they couldn't have met before he made the strange bargain. But as the third day drew to a close she appeared apprehensive.

When she kept glancing around, as if expecting someone, Dick became curious, and felt rather hurt to think she was looking for someone else. Finally she spoke.

"I'm sorry, Dick, that I've made use of you the way I have, but I was ordered to do it. You

see, my employer told me to meet you and spend every possible moment in your company. He also said that I would become acquainted with someone through you, and that you would know who he was, when I said I came from the large headed man on Morgan Avenue—with a letter."

For a moment Dick was stunned. Then he laughed, a sickly, half-hearted laugh. When he found his voice it squeaked.

"I think we had better go to my room. We have some very private things to say."

The queer man had succeeded in their being together for three days before either knew *they* were the central figures in the drama. Now they felt farther apart than at any moment since they had met, but nervously admitted they had fared better than they expected.

They were married in the morning, to keep the agreement, but didn't consider it part of the bargain to live as man and wife.

Dick found only one order in the letter, to be at the office at ten o'clock on Tuesday morning. That left five days to enjoy themselves.

In spite of the stiffness between them Dick noticed how the light caught in Dolores' dark hair, and how her brown eyes sparkled at each new sight. Her head reached just above his shoulder, and he had never danced with a better partner. She enjoyed his company, and

admitted to herself that he was a perfect gentleman.

During the five days they saw every good show, and visited every popular night club. Things they had always wanted to do were packed into the short time to themselves. Dick hired a car, and they drove for hours through the country. When Tuesday morning came they were tired, and it was hard to get up in time to keep the appointment.

When they opened the door, the big-headed man laughed at their yawns. "I see that you've either *been* enjoying yourselves, or have been *trying* mighty hard. You can make up your sleep from now on, as it will be a long time before we reach our destination. How do you like each other for permanent companions?"

Their faces grew crimson. Finally Dick found his voice. "I'm perfectly satisfied, Sir. I think Dolores is very pretty, and is *very* good company!"

He looked the other way to hide his embarrassment, as the girl spoke.

"I feel the same way. We have enjoyed being together, and perhaps when we are better acquainted the stiffness will disappear. We both feel odd, because we were required to marry!"

The strange man laughed out loud at this. "In other words you *might* have fallen in love, if you had been allowed time to do it. But *having* to marry creates an entirely different feeling. I be-

lieve it will work out well, even though you feel cheated at the moment. But we haven't any time to lose. Everyone is at the dock and we sail in two hours.

"Here are your instructions, Dick. From now on *you* give the orders, and I remain in the background. They will all feel more comfortable under the command of one of their own race. Study everything carefully on the way to the dock, then give them as your own orders."

Dick had little time for anything except to look through the sheaf of papers. On one sheet was a list of seven couples, with stateroom numbers beside each. His own was on the top, with number three room. This he dropped in a side pocket where it would be easy to find. The remainder was in connection with sailing.

Dick, Dolores and the big headed man occupied one cab, while the baggage followed in another. Dolores had obtained quite a wardrobe, much to the amusement of her employer. But the man spoke only once during the trip.

"Everyone in the party must consider that they work for you, Dick. You must hear all complaints and settle all differences. They must not approach me for any reason. I am known as Morquill, of section one, which you will understand when we reach our destination."

The crew was hurrying back and forth on the deck of the small ship, taking care of last-

minute details. A group of people were gathered beside a huge stack of baggage, and Dick walked toward them without waiting for the others.

Dolores went up the gang-plank beside Morquil, helping him slightly. He seemed to have difficulty in supporting his enormous head with the slight body.

As Dick reached the group, he read the names from the list in his hand. "Mr. and Mrs. John McCarthy. You are in stateroom number seven. Take what baggage you can carry, the rest will be put on board." He called each name and stateroom; they headed for the ship. John McCarthy he found was the man he had met in the office, and he *still* had his perpetual grin. Evidently his fiancée had agreed to the pact for they were now man and wife.

When Dick started toward the ship, after watching the baggage put on board, he was stopped by a tap on the shoulder. The cab drivers were still waiting for their money. Morquil had left everything in his hands, even to paying for the motor trip to the dock.

It was a strange departure, with only a few people on the dock to say goodbye. Even they were just neighbors of the passengers. Most of the women on board were crying as the "Primrose" nosed out through the harbor toward the open sea.

Dick was still at the rail when the captain approached. "I'm sorry to bother you, Mr. Barrow,

but I must know our destination so I can set the course."

The young leader's day dreaming was cut short, to jerk him back to his duties. He felt that the lives and hopes of everyone on the ship had been thrust into his hands.

Even the captain didn't know where they were going. The ship had been chartered for a voyage of several months, to an unknown destination. He and the crew were well paid, and didn't care where they went.

Dick drew a sealed envelope from his pocket, detached a slip of paper and handed it to the captain. He read the note, then repeated it. "You are to keep the destination to yourself. No one on the ship is to know where we are going, and you will not mention it to me again. I hope that we have good weather, Captain, and a fast trip."

Barrow felt like a fool. Repeating messages as if they were his own—without the slightest knowledge of what they were about. *He* was supposedly charting the course—and didn't have the slightest idea where they were going.

When Dick reached his stateroom (after answering questions from everyone on board—and telling them nothing) he found Dolores sobbing. She had kept her smile until the boat sailed. Now she was crying her eyes out. It was not a new sight, as every woman on the ship seemed occupied in the same way, with the men trying to comfort them.

As Dick sat down beside her, he could feel the throb of the diesel motor. It seemed to carry the rhythm of adventure through the walls of the cabin, giving the feeling of the unknown. For a long time there was silence while Dolores held one of Dick's hands for protection.

"Dick! We only have *one* cabin! I'm supposed to stay here with you—and I *hardly know you!* Morquil told me that I must stay here, there are no extra rooms."

"I'm sorry, Dolores. We will just have to put up with things as they are. We've got into this and will have to see it through. After all, we *are* man and wife, and the people on board would think it strange if we didn't occupy the same room. There are two bunks, so I won't have to sleep on the floor. It will be a long trip, and we might as well enjoy it as much as possible.

Days changed into weeks as the ship plowed steadily south. They stopped at one port for a few hours to refuel, but there was little to see. The ship was slow and it felt good to walk on land again. But no one spoke enough English to answer questions.

It was the only time they sighted land until just before the end of the trip, when small islands began to slide by. Some within a few hundred feet, others just visible in the distance. Morquil hadn't appeared on deck during the entire trip, but now he approached the rail.

His face lighted with an ethereal glow as he gazed across the blue water. He looked like a man who was sighting his home after many years of absence. Dick couldn't help but feel glad for him, while cold chills of misgiving crept up and down his own spine. Their voyage was ending at a far different place than he had pictured in his mind, and quite the opposite of the description which Morquil had given of gigantic mechanical development.

They were passing by small south-sea islands, where mechanical equipment was out of the question. They hardly appeared *habitable!*

When the captain approached Dick, Morquil joined the conversation. "*I'll* give you the directions, Captain. Mr. Barrow is not feeling well, and I can do it for him.

"In about an hour we will reach the island, and I will point out the entrance to the harbor. It is well protected and there is no need to worry about any storm while we unload."

Every inch of space in the ship was packed with supplies. There were crates of books as well as pieces of machinery. Considerable radio equipment included assembled sets as well as parts. There were rifles and even one small cannon. Several crates of chickens and turkeys joined the other things on the beach. Then to the amazement of the party, a crate of pigs appeared.

It required three days to empty the ship, and with each passing hour the little party grew more apprehensive. It seemed as if they had been transferred to an island to start a *new* civilization, instead of a place where mechanical development was far advanced. Because Dick was the leader of the party, the others began to look at him with hatred; Morquil was almost forgotten.

When the last piece of equipment was covered with heavy tarpaulins, they constructed a shelter against one side of the pile. It was almost dark when everything was finished, and the captain decided to wait until the next day to sail. Everyone was invited on board the *Primrose*, for a farewell party.

Dick was forced to call a meeting in the main cabin, to forestall danger of the party deserting with the ship. Morquil had instructed him carefully.

"Friends, we are facing a great adventure. I'm in no different position than you, except that as leader I am responsible for whatever happens. I must take all blame for whatever comes, yet know that it will eventually work out as we expected.

"You all know that it is forbidden to talk about this trip, or to surmise our destination. I can assure you that it is done for your benefit, and later you will appreciate the fact that you did *not* know the future. I can't say what the next few days will

bring to all of us, but be assured that everything you have been promised will be fulfilled.

"At the moment it seems impossible that things can turn out as we expected, but they *will*! You must simply be patient, and do not lose faith in this great adventure."

As Dick finished his speech, Morquil smiled, well satisfied. Dolores even smiled faintly, although it required effort to overcome her feeling of disaster.

The following morning everyone went ashore, and John McCarthy went around trying to aid Barrow in cheering up the party. He lied like a trooper, whispering to everyone that he had discovered something that satisfied *him* about the marvelous civilization they would reach before long.

Word of this reached Morquil, and he hurriedly called Dick and John out of sound of the others. He appeared almost frightened, and the moment they were alone, he spoke.

"What have you learned? I wanted you to know nothing, and it is better if you are ignorant. Whatever you learned is too much, and may upset the future."

John started to laugh, then seeing the expression of agony on the face of Morquil, he stopped short. "Don't worry. I haven't learned *anything*! I simply tried to help Dick keep the people satisfied. They were getting so restless they *needed* something. In my home town I

was known as a famous liar, and thought my ability might come in handy."

Slowly the agony disappeared from Morquil's face. "Someday you will understand how much you have done for me, John. You will never regret it!"

The McCarthys remained jovial, and tried to keep up the spirits of the others as the days of loneliness passed.

Philip Jones and his wife were quiet, and waited patiently. Andrew and Emma Smith had taken over the cooking, and served the meals. George and Mary Martin were the youngest couple, and Dick doubted whether either of them was past twenty-one. The others were all nearer thirty. They spent their time side by side, gazing over the sea, perfectly happy in each other's company.

Jerold Brown and Peter Yarbro were constantly fishing, from the collapsible boat, while their wives played cards.

One night they were awakened by brilliant flashes of light. Running to the beach, they watched in amazement.

They appeared like big guns firing just above the surface of the water, a few miles away. While they watched they gradually faded out. It was like a terrific electric storm, and the little party drew close together for comfort.

When the lights faded out entirely, Morquil told them to get some sleep. They would have to

move equipment aboard a new ship the following day.

With the first streak of dawn Dick was back at the edge of the beach, straining his eyes into the gloom, but it was almost an hour before any object was visible.

After breakfast the ship was much plainer. They could see a rounded hull, like the top of a huge submarine, above the water. One of the women remarked that she would *stay* on the island before she'd enter an under-sea ship. The trip on the Primrose was bad enough, but it wasn't *below* the surface.

Morquil called them within the canvas shelter, as if to make a speech. He held a small ball in one hand, and while they waited for instructions it landed in their midst.

A cloud of yellow vapor burst from the object, and everyone in the party slowly sank to the ground. Morquil joined the others in unconscious stupor, a victim of his own gas.

CHAPTER III

Strange Destination

WHEN Dick opened his eyes, there was a feeling of motion to the bed. The strangeness of the ceiling overhead drew his attention. It was not canvas, but shiny metal, almost purple in tint.

Suddenly he sat up. Dolores lay beside him. As his eyes cleared of the lingering mist, objects in the room became plain-

er. They were in a luxuriously equipped cabin.

Dolores slowly opened her eyes. A moment later she sat up beside him. Glancing through the porthole, beyond the bed, she turned away with a groan.

"We *are* under water! And deep! I can't see a thing but strange blue light."

When Dick joined her, his forehead puckered in a frown. "No, Dolores. It doesn't look like water, it looks more like—No! *It can't be!*"

For several minutes there was silence while he gazed through the opening. Dolores had lost interest in the outside and was examining the fittings of the cabin. It had everything that could be desired in a first class hotel room, and many little toilet articles besides.

Suddenly Dick turned away. "*It's true!* We're in the air—or above it! Dolores, this ship is an aircraft!"

"Never mind, Dick this room is *beautiful!* Whether we're flying or swimming, this is the nicest room I ever had. It has *everything*, and look at the dressing table!"

Dick sat down in amazement, a smile slowly spreading over his face. Dolores was happy—wherever they were. The room was all that mattered. But he couldn't understand why Morquill had gassed them, and put them on board unconscious. *He* would have enjoyed seeing the new ship.

When a knock sounded at the

door, Dolores was unpacking her clothes for the first time since they left the Primrose. Turning the knob, Morquill stepped in.

"I'm sorry, Dick, that I had to use gas, but I knew the people would be afraid of boarding this ship. John McCarthy is down in the power room already, examining the machines, but some of the others are upset about the transfer from the island. I hope you don't feel resentful?"

"No, Morquill. We're satisfied. If you don't believe it—look at Dolores. She decided to like this room the minute she saw it, and is unpacking already."

The worried expression disappeared from the strange man's face. "I had the cabins equipped for women, as I know they are particular about such things."

"Would you like to see the ship? It will be your home for a long time, and you might as well get acquainted. I'm sorry that no one but myself understands English, but you will have ample time to learn our language during the voyage. You must speak it fluently by the time we arrive."

As they started out, Dolores dropped the dress she was holding, to join them. Curiosity overcame the desire to straighten out her clothes.

Entering a wide passage, they turned to the right. It ended abruptly in a room with several comfortable chairs. Three tables occupied the center in uneven positions, the underparts filled with metal covered books. Two

men of Morquil's race looked up at their approach.

Dick returned their friendly smile. When Dolores smiled they appeared embarrassed; but truly greatly pleased. Barrow noticed that one of them was examining a book in English; the illustrations seemed to fascinate him.

A narrow passage, beyond the main cabin, led to the control room where three men sat in swivel chairs. The instrument board was a marvel to Dick, and he watched for several minutes. It would require months to understand even a small portion of the gauges.

The ship was built with two decks, and a large hold beneath the lower floor which contained the machinery. The strange men were quartered on the lower level, with the exception of Morquil. His cabin was next to the one occupied by the Barrows. The McCarthys were on the opposite side of the passage, in a room slightly smaller than the one allotted to Dick and his wife.

The quarters of the remainder of the party were smaller, but still quite comfortable; all located farther back on the same passage.

Morquil was proud of the ship, and displayed each section with pride. He opened every cupboard door, and showed them through all of the cabins. They were stopped for a while, when they met Mrs. Yarbro, trying to dispel her fear of the strange craft. The others appeared to be taking

their new quarters for granted, and settling down for the trip.

The main cabin was toward the front of the ship, while the dining room was at the rear; the staterooms on the passage between. One stairway led to the lower level, from just back of the control room, another from the dining saloon. A ramp beneath the rear stairway led to the hold of the ship. When they started down, Dolores returned to her cabin. Her interest ended on the upper decks.

Dick spotted John, bending over one of the machines, so engrossed that he didn't hear their approach. One of the crew stood nearby, watching.

When McCarthy saw Barrow, he nearly burst with enthusiasm. "This is the greatest thing I've ever seen! Why, it almost *talks*! Do you know, this little machine actually picks up the orders from the control room, and *adjusts every machine down here!* Darned if I don't think it's got a brain!"

When Morquil led the way toward the front of the hold, John was still engrossed in the apparatus. "He will be a valuable man to you, Dick, and can solve many problems that you would otherwise have to do yourself. He will make an able assistant."

Passing by the heavy machinery, they approached an enclosed section, which appeared to be of recent installation. Stepping through the doorway, Morquil threw a switch which lighted every corner, then watched expectantly as Dick examined the

strange objects. It appeared to be a colony of metal beehives, with covered passages between.

"It is our home, Dick. This room contains everything in miniature that you will see when we arrive. Each of the smaller domes house thirty thousand people, the large one three times that number. We are born, live our lives, and die beneath these metal ceilings. It will be your job to care for them.

"Everything beneath these domes is exactly as it is in our cities, except that the machines are dummies. This model room was installed so you could study our civilization during the trip. When you arrive you will be ready to start work.

"You, and you only will have a key. You may bring any member of your party here that you desire, but it is not necessary for them to understand the entire civilization. There are only six cities, including the large one, where you and John McCarthy will be located. The other men will each have one dome under their control.

"It is easy to travel back and forth, and you may gather together at any time, although each of you will have duties in different sections. While you are overseeing the work in the smaller cities John can look after the capital. Upon your arrival in Yorpun you will take complete charge of all mechanical work. It will be your responsibility from then on."

As Dick slipped the key in his

pocket, he felt the weight of a country settle slowly on his shoulders. Two hundred and ten thousand people—entirely dependent upon *his* control of the machines.

Where could this settlement be? They had sailed darn near to the end of the world in the *Primrose*, and now they were going even farther. From the way the metal domes covered the cities, it might be at the south pole, and still be habitable.

By the time they returned to the main cabin, it was dinner time. It was past mid-day when he regained consciousness, and Dick was hungry.

Mrs. McCarthy was knitting a sweater for her husband, while three of the strange men watched in amazement. Her knitting needles seemed to hold them spellbound. The other members of Dick's party were sitting around trying to decide what to do. But the sound of the dinner gong, made them forget their worries.

Dick had to go down to the hold and call John, who was still watching the master machine. If he hadn't been dragged away, he would have spent the night examining the strange device.

The meal was simple, but they all enjoyed it. It seemed to dispel the gloom from the party, and they appreciated McCarthys jokes. There were fifteen of Morquill's race in the crew, and all but the men at the controls joined them.

Knives and forks stood at the

places set for the passengers, brought from the supplies on the Primrose, but the crew ate with long narrow spoons. Table silver was evidently unknown to this race of people.

After dinner Morquill called them to the main cabin, and for the first time told about the destination. All that had kept them from losing hope long before, was his promise of greater comfort and luxury than they could hope for in their native land.

"I know that some of you resent the fact that you were unconscious while put aboard this ship. But I know you would hesitate to come of your own accord. One woman said that she wouldn't go on an *undersea* ship, and she would be more afraid of this.

"You will be amazed to know that we are now leaving the atmosphere of the earth that you have always known. *Our destination is on a different planet!*"

CHAPTER IV

Morquill's Story

FOR a long time there was silence, then Mrs. Jones fainted. McCarthy took it without flinching, and his wife was satisfied if he was. Dick had suspected something almost as strange, and did not seem surprised. Dolores looked at him for guidance. He nodded reassuringly. The others shut their lips tight, feeling that they had been taken prisoner without hope of escape.

After a pause, Morquill continued. Mrs. Jones had recovered her composure and was staring at him with undisguised dislike. "I'm sorry it had to happen this way, but I would not have been able to take sufficient people if you had known where we were going. Some of you might have come, but I treated every one alike.

"I also was unconscious from the gas, but the crew revived me. I had to look after the loading of the supplies, and have the cabins prepared for you. It was much nicer that way than if you had resisted, and were put on board by force.

"I shall start at the beginning of my story, and let you judge for yourselves as to whether we have done wrong.

"The existence of my world depends on the perfect operation of machines. Even our atmosphere is manufactured and kept at proper temperature within sealed domes, to protect us from the natural gases of the planet. We live on this planet through necessity—not desire!"

"Our race landed there very long ago after escaping from a planet that was falling into the sun. Their space ship ran short of fuel within the gravity pull of our present habitation. It was difficult, but they succeeded in constructing gas-proof shelters, and slowly improved conditions for living.

"We never knew what happened to the other space ships from our original planet, but

they may be distributed throughout the universe. Your *own* ancestors may be of the same origin as ours. The similarity of our forms tends to prove it.

"Eventually metal domes were built, and the race prospered within. But our lives depend on their being kept in perfect repair. Machines were built which do practically all of the work in caring for our wants, and from the first we have adjusted our own gravity; to live normally under the gigantic pull of the new planet, which to you is Jupiter.

"Through the ages our lives became easier, and required less manual work. Machinery did everything we desired. Most of them were automatically repaired and serviced, while the permanent machines ran on through the ages without care. As generation after generation lived and died, under these conditions, we lost most of our former knowledge.

"When one of the atmospheric machines ceased to operate—we *could not repair it!* Instead, one of the other machines had to be speeded up, and the atmosphere pumped into the extra dome.

"At the height of our mechanical development this space ship was built. Then the race lost interest and were content to live in ease, without attempting to reach another planet. Three generations ago our people discovered the danger. Even our bodies had deteriorated until we *could not stand hard work*. The ma-

chines had begun to break down—we were headed for extinction!

"When I was a young man they succeeded in finishing the equipment on this ship. Three generations had been required to create enough fuel for only *two voyages!*

"I was selected as the man to explore the strange world, which we had been studying with the instruments of our ancestors. We had determined your exact mechanical development, and knew that you were capable of furnishing the engineers which meant life or death to our race.

"It is twenty years since I was left on the small island, and the ship returned to Jupiter. At that time we decided the date for this trip, to bring me back. In the meantime I traveled half way around the world in a small metal boat, before being picked up by a tramp steamer, as I dared not land near any civilized country. After I reached a settlement I had to learn your customs and language, and many other things about a completely alien people.

"I was furnished with an ample supply of gold, as we knew it was the metal that you valued highest. This purchased many things that would otherwise have been impossible to obtain, and also brought me a great deal of trouble. I was robbed of most of the wealth before I had been in civilization a year. The fact that a great deal was left on the

small island is all that made my venture possible.

"I spent three years in an institution before they decided that I was a normal human being, and could take care of myself. I dared not tell them that I came from a different planet, or I would have failed in every way. I learned many things about the people of your world, but mainly that gold could buy almost anything.

"I lived for several years, by working at anything that I could obtain, trying to find someone who would finance an expedition to the island. No one would believe me when I said that I knew of a great fortune in gold. I finally found a man who *did* believe me, and he received one half of the gold as reward. It was not until then that I could begin the work that I started out to do, and nearly ten years had passed.

"I planned for several years before I dared try to obtain the people I needed. I studied everything I could about your engineering, and found that it was not of the same type as our own. For this reason I did not want a graduate engineer, as he would have to learn everything all over again in my cities.

"When I advertised for men, and told you of the wonderful mechanical development, it was the truth. I did mislead you to a small extent, in obtaining your promise to come with me, but the existence of my race depended on

your work. My people will give you anything you desire if you will help them.

"When we left our cities, we didn't know whether we could even escape from the planet in this ship. There was no opportunity of testing it, until we started on the journey. Even the men at the controls had never handled it. All of their knowledge was obtained by years of practice, sitting in a stationary ship.

"When they left me on the island and returned to the planet, they *hoped* I could accomplish my purpose, but the chance of success was pitifully small.

"I have never enjoyed the comforts of other members of my race, but have spent my life in an alien universe, carrying around my big head; without friends or companionship. The gravity within our enclosed cities is lower than on your planet, making it easy for us to walk.

"After several years of study and planning, I knew there was only one way of accomplishing what I went after. It is the way I have done it. No one would have believed that I came from a strange planet; they would have thought me out of my mind. If I *had* persuaded them, I could have found no recruits for the work, no matter what I offered. I *know* how anyone feels about leaving their own planet, where they were born and brought up.

"You will find that the ma-

chines need work badly. Some of them are running only because we use several times the normal power to turn them. Our mining machines have not worked for more than a generation, and the mines remain idle. The metal supply is running short.

"The equipment which overcomes gravity, also furnishes us with power. When weights are lifted, with gravity almost eliminated, then allowed to sink with the full pull of Jupiter, it creates enormous amounts of energy for every use.

"It will be months before we reach our cities, and I hope that by that time you will feel satisfied with your forced migration. To my race, it was the only course which would avoid annihilation within a few generations.

"At first it will seem terrible to be shut in beneath a metal cover. But when you become accustomed to it, that feeling disappears. You depend just as much on a ship at sea or a plane in the air, but never think of it in the same way. We *must* trust you, as we will not know whether you are repairing or destroying our machines until we see the results.

"You will be given complete power and can draw upon my people for all of the help you need. You will be even more powerful than the rulers of the domes. My people decided that you deserved this position, long before we attempted to reach the earth and bring you back.

"I came to your country because the mechanical development is greater than in any other nation. You have greater love for engineering, and more of you are employed that way.

"I have told you everything about my home and my people, and leave it up to you as to the way you will act. We have only done what was necessary for the survival of our race, and hope that you will forgive us for stealing you from your own planet.

"You have complete freedom of the ship, to come and go as you please at any time. You are now considered part of our own population, and we both have the same interests. We hope you enjoy it."

For a moment Morquill gazed into the faces of the small gathering of people, then slowly walked from the room. There was complete silence, broken occasionally by a sigh as some thought of home exerted itself. An hour passed and they still had not moved. Each seemed to be waiting for one of the others to break the silence.

Finally Dick got to his feet. His words came slow, as if carefully weighed before using; the others listened intently.

"I know what each of you must be thinking; because I've been thinking the same thoughts. We are all in the same boat, without chance of leaving—headed for *Jupiter*! We have seen the last of the world where

we were born. Either we take up our lives in this new existence, or die out here in space—destroying Morquil's race as well as ourselves.

"He says they can not survive without our aid. Our own world did not need us, or give us much for our efforts. If it had we would not be on this strange space ship. Morquil hired only people who were willing to leave their homes and friends—and we *applied* for the work. There really is not much that we can complain about.

"For one, I intend to do all that I can to make our future home the greatest civilization in the universe. Perhaps in the future years it will be possible for us to pay a short visit to our former planet. Perhaps our children will follow in our footsteps; enjoying greater honor, comfort, and luxury than they could possibly have had in our own world. I received little from my fellow men, and have *already* received more from Morquil than I ever had before."

As Dick sat down, John McCarthy's voice boomed out. "I'll follow Dick! He's the boss of this party, and if he's satisfied, I am. *Boy!* We sure do go places when we get started!"

The general laugh broke the tension, and each one spoke after a little hesitation. Each man slowly grasped the gigantic task that was facing them, and felt honored as a result.

It was a new world, farther advanced than their former

habitation—which needed *them* to care for it. It was a big bite to chew—but they would do it!

Dick remained in his chair long after the others had gone to their cabins. His mind dwelled on the complete happiness and satisfaction that lighted Morquil's face, when informed of their decision. In that moment he was repaid for a lifetime in a strange world, amongst alien people. His return to Jupiter would be triumphal, with the Earth people as his friends; come to save his race from extinction!

Barrow's mind wandered on, to the gigantic task that faced them. His would be the greatest responsibility, as head of all the domes. The other men would have a single city to care for. The thought of McCarthy as his assistant was comforting; he would be a great help.

The strange race of beings were putting every trust in the earthmen—putting themselves at the mercy of the seven strangers—and Dick knew the men would *earn* that faith!

He jumped when a hand touched his shoulder.

"Dick, won't you take your wife to her room—she feels sleepy!"

CHAPTER V

Voyaging to Another World

DURING each waking period, Barrow spent many hours in the room with the miniature

domes. They were beautiful models, which could be opened or moved as desired, by small levers on the foundation. Wires as fine as hairs were strung from one spot to another, while metal the size of thread represented heavy cables.

Slowly, an understanding of the strange civilization formed in Dick's mind, and he drew sectional maps of the location of all mechanical equipment. Other maps pictured the streets, so that it would be easy to reach any desired destination. When this was done, Morquil sent one of his men down to make as many copies as desired. Each engineer was to have a complete set.

The earthmen had learned to keep track of the time according to the system on the ship. Each "lix" included the time spent in sleep as well as one waking period. It was twenty-seven hours in length, but they all thought of it as a day.

Each lix was divided into thirty-six "migs." Each mig being just forty-five minutes in length. They were able to keep track of each mig, by their watches, although the time pieces were useless for any other purpose.

One lix, Dick returned the friendly smile of a member of the crew, and to his amazement the man spoke. "Chickiboo." For a moment Barrow was stumped, then realized that it must be a greeting.

When he was greeted the same

way, by a second and then a third man, he tried to imitate the words. The man from Jupiter was so pleased that he almost danced, then spoke again. "Goot-mording."

Dick's jaw almost dropped open; the man was trying to speak *English*!

Suddenly Barrow laughed. Morquil had been instructing his crew in the strange language, as well as telling them to greet the earthmen in their own tongue. He must speak about holding classes to learn the language. They would have to understand it, and the sooner they started the easier it would be.

The following lix, Dick stopped on the ramp to the machinery hold to listen. McCarthy was humming the tune of a song that had been the rage at home, but the words were "chicki-boo—chicki-boo—chicki-boo."

Barrow smiled as he approached, but the big Irishman didn't realize the reason. He was almost bursting with news.

"I've got it, Dick! I've found the key! Don't laugh, but I've discovered the working principle of this little machine, and it will lead to the secret of all others. In a month I'll know how this crate runs."

"Don't worry, I'm not laughing, John. I think it's great that you've got this far. I only wish the others would show as much interest. Not one of them has been down here for more than a few minutes, and they know little more than when we started."

"Aw! Don't take it that way, Dick. It isn't their fault. Didn't you ever see their *wives*? Those women won't let the men out of their sight for three minutes. Your wife and mine are different—they *trust* us! If we tell 'em the ship's okay, it's okay; but *them*—say, they can't tell their wives anything. The women in their families do *all* of the talking."

Dick laughed, but knew that it was close to the truth. The other men in the party *were* tied to their wives' apron strings. Aside from Dolores and Eileen McCarthy, none of the women trusted the space ship. They were afraid it might fly to pieces at any moment, although they had overcome their fear enough to find means of entertainment.

Small devices in the cabin showed miniature movies, with words in the tongue of the dome cities. Discovering this created desire to understand the language, and they eagerly attended the classes.

One lix Dick found Jerold Brown examining a piece of machinery. A few lix later Andrew Smith had joined him. Soon every earthman was spending his time in the machinery hold, with McCarthy acting as instructor. He would accept no excuse for being late at his classes—and they all arrived on time!

Weeks slipped by as the ship drove on through space. The earthmen learned to admire the men from Jupiter for their con-

stant good-nature, although they were slightly childish.

The crew of engineers were slowly learning the rudiments of Jupiter's science. Barrow through his study of the domes, and McCarthy through study of the machines, far surpassed the others. At times both men spent hours in the model room, at others Dick examined the machines beside the Irishman. They compared notes until each knew the other's findings.

Dick took all the men into the model room once every third lix, and spent four hours instructing them in the civilization. Each man had his own set of maps, and marked down facts about his future location. Dick copied their notes on a large map, that covered all the cities. They used numbers to signify different mechanisms, to make it easier to describe equipment that was duplicated in more than one dome.

In a month they were able to carry on light conversation, and from then on mastery of the language was faster. The women far surpassed the men, due to desire for entertainment.

When he was able to question the crew, Dick received a terrible shock. *They knew less about the ship's operation than his own men!* They didn't understand their own equipment!

The people of the domes were content to enjoy the mechanical wonders of their ancestors—without bothering about how they ran. They used equipment for every purpose, without the

slightest interest in why it worked. The earthmen suddenly realized what a gigantic task they faced. *Seven men*—to rebuild a civilization!

The men at the controls knew what reaction would take place by movement of a lever, but *didn't understand why!* Dick became slightly worried about reaching their destination—it was beyond all reason. Earthmen wouldn't have attempted to operate equipment they knew nothing about, by movement of controls to obtain the proper action.

It was no wonder these people had found it necessary to find engineers to run their machines!

Months slipped by as the ship moved steadily toward the giant planet. Every piece of equipment seemed to be the answer to perfection. This voyage had taught them more about mechanics than was covered in a complete engineering course on earth. It was of a far different kind, with gravity the basis of all operation. Even the space ship employed some of the same power, drawn from the nearest heavy body, then amplified until it reached enormous proportions.*

Peter Yarboro was a practical chemist, and spent many hours trying to analyze the fuel. It was highly inflammable, yet could stand terrific compression without effect. When it was allowed to expand again, it reached the flash point immediately, creating enormous amounts of heavy gas. He believed it might be duplicat-

ed from crude oil, properly refined.

When Dick learned that there was a history of the space ship, in the metal books, his curiosity was aroused. He could read the language of the domes slightly, but not enough to study the intricate explanations. It was through these books that the dome men had learned to control the ship, and set the course for any desired planet.

Morquil's aid was enlisted, to translate the text, and he learned some amazing facts. A description of the fuel was given, but the base for manufacture was unknown, being of natural origin on Jupiter. As Morquil read farther and explained sections that Dick couldn't understand, the Earthman felt uneasy.

The crew had abandoned all hope of returning to their home planet, the first time they started from the Earth. They didn't understand what it meant to feel responsible for equipment. They manufactured enough fuel for two trips, according to the rating of consumption in the books—but Dick wondered?

*This gravity power was derived from huge weights swung on an axis that could be faced toward any point in the universe, and the slightest pull resulted in force that was exerted on the fuel. The explosive mixture remained at constant pressure, creating a smooth driving medium. Discharge of the fuel under high compression resulted in greater power than could be obtained in any other way.

When the fuel shot through the tubes, it exerted force on the gas cloud that was far above the actual speed of the explosion. The heat of combustion was reduced, and the ship operated without effect from the blasts. The tubes were small, yet the power expended was beyond anything ever accomplished on earth.—Author.

The tanks were filled to capacity before the first trip, and hadn't been tested since. The happy dome people didn't consider that their ancestors might have been mistaken, or that actual operation might vary from the original plan.

For the first time in twenty years, the gauges were examined. Barrow and McCarthy crawled through the dust-coated passage beneath the floor of the machinery hold. They found a light switch, but the bulbs were so dust coated that only a faint glow shed on the surrounding metal. They sneezed and coughed, as the dust-laden air filled their lungs.

"Darned if you don't get the craziest ideas, Dick. What good will it do to know how much 'ship juice' there is, anyway? We can't *make* it! This hole wasn't built for self-respecting men to crawl through."

"I don't know, John, but this trip may not be as easy as it appears. They've been driving at full force for months, when it seems to me that less power might carry us when we're not within the pull of some planet. I want to make *sure* that there's plenty of fuel. According to the books, the designers didn't expect the ship to be driven this hard."

John did a little cussing when they located the gauges, and found them so thick with grime that they had to be cleaned. He headed back through the dust

for a cloth, with Dick's laugh following. "Alright, alright, but don't rub it in. Just because you happened to be in front of me, and there isn't room to pass, don't give you the right to laugh. Some day you'll be eating your share of dust, and will I laugh! I bet that the domes are *all* a mess."

Dick wrote down the reading of each gauge, as John cleaned the surfaces. He couldn't understand the strange numerals, and had to go over them with Morquil. Both men breathed a sigh of relief as they crawled back through the floor of the hold, and dropped the trap door in place.

An hour later Dick began to worry. According to Morquil, the tanks were *less than one-eighth full*. The big-headed man had gone over the figures twice, and was showing signs of agitation as he checked them again at Barrow's request. When he glanced up; Dick knew there was no mistake.

"The fuel is low Dick. According to the other trip, the greatest use of power is at the time we approach the planet, to fight the pull of gravity. Our trip from earth is only half completed, with the greatest need of fuel still ahead. You must think my race very stupid not to have thought of it?"

It took Dick a long time to answer. His mind was searching frantically for some solution. It was useless to ask help of the

crew—they couldn't even *think* scientifically!

"No, Morquil. I don't think you're stupid, but I do consider your people very foolish. From the appearance of things *we will never reach the domes!*

"Unless something drastic is accomplished, the ship will smash to pieces on your planet. You don't know *anything* about the ship's operation, and we've only studied it for a short time."

They decided to inform the men immediately but say nothing to the women for the present. Within an hour of the discovery, Morquil warned the men at the controls to conserve the power as much as possible.

Every operation of the ship, was dependent on fuel. The generators for heat, light and controls, were turned by discharge through the tubes. At least *one* blast must be fired at *all times* to keep the controls sensitized, and develop power for emergency equipment. The other tubes were silenced.

During the rest migs Dick couldn't sleep, but spent every minute talking to John McCarthy. There *must* be some solution—and they had to find it!

CHAPTER VI

An Engineer's Mettle

IN THE morning the earthmen were called together. They came with smiling faces, which slowly changed to apprehension.

There were many suggestions

in as many minutes, but none that gave a possibility of accomplishing the impossible. They had to stretch the fuel—*without visible means of stretching it!*

The women believed the meeting was a routine course in mechanics, and went on enjoying their entertainment. The men explained they were bothered by a knotty question about the machinery to account for their worried concentration. It would have been a terrible handicap if the women discovered the truth.

Three lix passed with little change. The fuel had been cut down for a while, but the ship didn't hold its course. Every tube had been fired to hold the direct route for Jupiter. They were constantly cutting into the meager supply that remained—and had to overcome the *deficiency!*

Due to the slight conservation of fuel the ship had been operating far below efficiency, and the cold of space began to seep through the walls. This affected the dome people more than the earthmen, and they suffered torture. Any change in temperature was unknown to them, they were chilled at a few degrees below normal heat.

Suddenly, during dinner on the third evening, Peter Yarbrow jumped up from the table. The other men fastened eager eyes on his face, while the women watched in amazement.

He started to speak, then remembered the women, sat down quietly. "I—I think I've found

the answer—to our *problem!* If you will join me in the hold, when we finish eating, I would like to talk it over with you.”

Mrs. Yarbro was even more amazed. “Peter! I’m surprised at you. Jumping up from the table so excited, just because you happened to think of the answer to a *problem!* You ought to be ashamed.”

In spite of his worries Dick lowered his head to hide the smile. If only Peter’s wife knew what that problem was, she might not think it so strange.

Hardly a man touched his food, and as soon as they were out of ear shot of the women, he spoke what was in his mind. The crew heard him at the table and many of them gathered to listen. For the first time in their lives they were worried. Their lives depended on the earthmen before they even *reached* their planet.

Yarbro hesitated. “I’m not so sure now, that I *have* found the answer. When it came to me, I thought it was simple, but now it seems more like a dream.

“Since knowing that the fuel was low I’ve racked my brain for something that might be used—and it had to be on the ship. Every *other* man was looking for a mechanical answer, and my efforts would be of little use. So I’ve searched for a chemical.

“*Water* is the only liquid in any quantity. I discarded it so many times that it left a headache, but my search always came back to the same place. It’s the only thing we’ve got.

“All other liquids are in too small amounts, even if they could be used, and the ship is equipped only for chemical fuel—in *liquid form!*

“At dinner when I became so excited, I thought that water would do the trick. Now I don’t know. It has oxygen in large amounts, which is vitally needed, but that’s the only advantage.

“Even if we dared try, it might injure the tubes. Still I believe it’s the only chance of salvation. It’s the one substance on board, in any large quantity. What do you think?”

There wasn’t a sound as the minutes passed. Each man searched frantically for the slightest hope; searched for the *one* chance in a thousand!

Dick finally broke the silence. “What is *your* plan, Peter? You must have thought of something?”

“No, that’s just the trouble. I thought that water might mix with the fuel, even fire with it. It was only a brain storm I’m afraid.”

After a moment Dick spoke again. “It *can’t* be! Since there is no other substance—we *must* use *water!* There has to be a way—and *we’ve got to find it!* We might as well use up the water and die of thirst, as to drift around in space until we starve to death, or die in the dive at Jupiter.”

Twice Mrs. Martin came down the ramp to take her husband to bed, but Dick sent her away.

The men would stay there until they had found a solution—they *had to*! The fuel was fast disappearing!

Morquil still sat in the background. The other men from Jupiter had gone to their quarters. He could offer no suggestion, but listened carefully to every word they spoke. Finally he stood up.

"I hope that you can forgive me. In the last three lixs I have regretted that I ever saw your earth. It were better that my people die, than for us to carry people from a happy planet to die in space—because of our stupidity. We are no better than children without cares or worries. The men of the crew realized the risk, before they left the domes—but it is not your fault!"

"Aw, sit down you big-headed numbskull!" McCarthy's voice boomed out. "We don't blame *you*! We'll find some way to run this crate, and get there in one piece. You just made us go to work before we expected. Why! A problem like this is *simple* on earth—they'd solve it in *no* time! You just go to bed and stop worrying. We'll have everything fixed by morning."

Morquil's expression changed slightly, and he almost smiled. He started for the ramp as if taking the words literally, but half way up he faced the little gathering again. "Thank you, John. But I haven't forgotten that you were a famous liar in

your home town—and you haven't lost your ability. Thank you anyway, you're very kind."

When McCarthy turned toward the others, he looked rather sheepish. But the forced smiles he received made him feel a lot better.

Hours passed, while each man told everything he had known about water. At last Dick stood up. "We've covered every possible reaction, and many that are seemingly impossible, but have overlooked one very vital point that will either help or hinder greatly.

"The fuel is subjected to terrific pressure. Naturally, any water that was used would receive the same treatment. In the compression chamber the pressure rises very fast, which must develop high temperature. The result is that we would not have water—we'd have steam! It would be almost *dry steam*!"

"Water in the liquid form couldn't discharge oxygen fast enough to affect the fuel, but as steam it might. There is a good chance that steam may even *increase* the explosive power to a point that we can't even imagine. There's only one way to find out—*try it*!"

"Every man here will admit that John has the most practical mechanical brain. It will be his job to find a means of injecting the water in the proper amounts. The rest of us can try to find any kinks in the system that he suggests. He knows every piece of equipment on board, and can

pick whatever is best suited for the purpose."

As Dick sat down, John got to his feet. "This is one time that I'm ahead of you. While you've been talking I've been planning a way to do just that. There's an extra firing tube that can hold the pressure we want.

"Fuel for all the blasts is compressed in one chamber, then discharged through any desired tube. If we put the water under the pressure, with the hydraulic system, and let it seep into the chamber at a set rate—it *might* work! Valves can control the steam perfectly, and regulate the flow to whatever is desired.

"The tube will have to be shut off from the fuel tank every few hours, to be filled. Preheating the water will develop steam pressure, and it won't draw enough from the hydraulic system to affect the operation of the blasts

"What do you say, shall we try it? It means shutting off all but the emergency tube for several hours, and it will be *cold!*"

Within five minutes they were hauling the heavy tube from the storage room. In an hour everything was ready to assemble, and each man knew exactly what work he was to do. A pipe line was run from the water tanks, to fill the steam chamber in position.

Dick was building an electric heating unit to encase the entire tube, which could be regulated for any desired temperature.

Half of the rest period had passed when the chamber was finished and they were ready to cut an opening in the compression unit. Perspiration poured down the body of every man, but not from the exertion. Each minute that passed ate deeper into the fuel. If water couldn't replace the liquid, they were helpless.

They wanted to install the tube, while the women were asleep. The ship would be too cold for comfort for a long time after the blasts could be started again. When the heating units in the hull were shut off it would become freezing inside.

Men raced through the ship, stopping at their staterooms on the way. Dick dropped three extra covers over Dolores without disturbing her, then slipped into the heaviest clothing that he owned.

Each man was occupied in his own room, in the same way. Heavy coats were taken to the men at the controls while the remainder of the crew were sent to a room with an emergency heating unit.

In fifteen minutes they were back at the compression chamber, and at the touch of a button the blast were silenced from the control room.

By the time an opening was cut in the heavy tanks, the cold had begun to creep into the ship. The men worked desperately, and for a while perspiration dampened their clothing. Then the chill crept deeper—and they

shivered. Their fingers grew numb, and they had to warm them over a small electric unit, but the opening slowly enlarged beneath their torches.

When the tube was fitted into the hole, and the metal began to flow around the edges, even the torches seemed to throw little heat. Dick knew his nose was frosted, and warned the others not to touch their nose or ears. According to John's watch it required three hours to fit the tube in place.

When they rang for the power to be turned on, they waited in vain. When minutes passed without reaction, they glanced at each other in consternation. Brown and Martin raced up the ramp while the others waited. Within a few minutes the tubes began to fire and warmth slowly drove back the numbing cold.

Water pipes had burst, and they hurried to stop the leaks. The main tanks were uninjured, as the cold hadn't penetrated the big supplies in storage.

Dick suddenly realized that Brown and Martin hadn't returned. When he reached the upper deck all of the women were gathered near the room where the crew had been left. The thermometer was only fifty degrees, even then, and they shivered in heavy coats.

Every dome man was stretched out on the floor! As Dick stepped within, his heart almost stopped beating—but they were only unconscious! His breath escaped in a long sigh, after

holding it for almost a minute.

Brown and Martin were trying to revive the prone forms. The control men lay beside the others, brought there by the two earthmen. The eyes of first one then another, slowly opened, and they looked around in amazement. Cold affected them like an anaesthetic, causing complete unconsciousness.

When the ship reached normal warmth, they felt as good as ever. It hadn't been cold enough to freeze them, in their section, and not a man was injured. When they understood what happened, the men hurried back to the controls.

The heavy coils were soon fastened around the tube, and it was filled through a valve on the upper side. A gauge was set to register the pressure of the vapor within. They decided to raise steam pressure enough to equal the compression of the fuel.

It required fifteen minutes for the water to reach the boiling point, while they nervously held their watches. They could keep track of minutes and hours, although there was no longer day and night in their lives. According to their figures, they now ate dinner at three o'clock in the morning, and went to bed in the early afternoon.

They held their breath when the steam valve was opened. It moved slowly under Dick's fingers, while a thousand questions raced through every mind.

"Would it silence the blasts?

Would it put them out of commission permanently? Was that moment, and the turning of that valve, the end of existence for them all?"

Dick glanced at the gauge on the tube, then jerked the valve shut. The pressure was still far below that of the fuel. He turned the heating unit on full, and watched the gauge climb higher. They didn't understand the numerals of the domed cities, but knew the pressure was getting terrifically high.

When he opened the valve again, the steam gauge *did not rise!* It held almost steady. The hiss of escaping steam, sounded through the heavy metal faintly.

The tubes began to fire spasmodically! Dick bit his lips, as he opened the valve a little wider. John McCarthy wiped the sweat from his forehead, as every face turned white as chalk.

They fired evenly again!!! The steam was working through the mixture — *discharging through the blasts!*

They felt their bodies sway under the effects of acceleration and exultance filled them. There was *some* reaction, at least!

Morquil appeared on the ramp, his face lighted by a smile. "*What have you done? The ship is traveling at almost twice the speed that it was before! Is it all right?*"

Dick sat down hard. Not a man in the crowd was able to answer. Success had left them

speechless. Barrow was the first to recover his voice.

"Are you *sure?*"

"Yes, Dick! We took three separate observations, and each showed the same result—almost *double* normal speed! Does it mean what you wanted? *Can we reach the domes?*"

"I hope so, Morquil. If the steam has made *that* much difference, we'll get there without trouble. The water must be conserved as much as possible—and hope that it lasts. Whether it increases the power of the fuel, or simply creates an additional body to drive against, is not important. *We're getting there!*"

CHAPTER VII

Jupiter and Trouble!

THE huge ship circled the planet twice, with the instruments adjusted to detect the metal of the domes. They spread over many miles of the surface, yet were like grains of sand on the enormous globe. When the gauges quivered over a section, hidden beneath the mists, every one breathed a sigh of relief.

It would be many hours before the ship was within the cities, but they were *home!* Every earthman had the same feeling. Jupiter was almost as much of a home to them as to the natives, even before they had seen it. They eagerly looked forward to sight of the domes that would be under their care.

John McCarthy entered the

control room with a big tray of containers. "Here! It's not liquor, but I'll bet you enjoy it more. There's enough in each of these to *really* quench your thirst. I for one, will enjoy drinking all of the water I want, after five weeks on short rations."

It seemed impossible that the clouds outside could be deadly. They were beautiful in the reflected light of the sun, yet those vapors contained poison that no man could live in. The domes were the only place that life could exist on the strange planet.

As they dropped through the heavy mists, it created a feeling of dense fog. They could see nothing of the surroundings, trusting entirely on the instruments. It was like groping in the dark, yet the earthmen knew it had been done before, and the dome-men showed no fear.

When a slight jar shook the ship, they breathed easier. *It had touched the ground!* They could feel some effect of the heavy gravity, even within the insulated hull. The ship slanted down at a steep angle, sliding forward with its own weight.

The earthmen didn't understand what was happening, but watched the actions of the dome men. They were using a different control board now, beneath the other panel. McCarthy was down in the hold, watching the action of machines that had been idle until now.

When they stopped, the mists disappeared from around them.

Lights above outlined a huge metal passage. The ship started forward again and heavy doors slid back at the approach with bright light appearing beyond.

They were looking across sunlit country; the most perfect scene they had ever witnessed. Strange trees, and growth of every description, spread in every direction. When the ship slid into the open, they were beneath one of the domes—enormous beyond their greatest imagination, and exquisitely beautiful.

While they watched spellbound, people started across the fields to greet the expedition. The women were well proportioned, and far different from the men of the race. Not as tall as the women of earth, or quite as well built, but their heads were much smaller than the men's.

All men were dressed in flowing robes, the women in much less clothing. They wore tight fitting garments, like bathing suits of metallic cloth. They were happy and carefree, seemingly without a worry in their lives. Children came romping across the fields beside their parents.

Minutes slipped by, and the people from earth hadn't moved. Sight of their new home was too wonderful to grasp at once. Instead of the gloomy metal covering they had expected, the curved surface above was finished in blue that resembled clear sky at home—as if they had reached the land of their dreams.

When their minds snapped

back to reality, the dome men were being welcomed by friends and relatives. The babble of voices came faintly to the control room, from the power hull.

John McCarthy joined them. When the machines stopped, he came up to find the reason. Now the others watched as he gazed at the beautiful scene for the first time. Their own amazement was reflected in his eyes. When he looked up at the curved dome, his wife slipped her arm around him.

They were disturbed by the crew, returning with their friends to welcome the engineers. The dome people seemed completely happy. They were like children greeting their parents, holding the hands of the earth people and gazing into their faces with adoration. In their minds, the future was secure, and they no longer had a care in the world. Eileen McCarthy was so overwhelmed at the reception that she hugged two of the little women.

It was like a dream to walk across the heavy carpet of moss. There was no grass, but the velvet coat of green was quite similar. The trees were shaped like an inverted bowl, their branches conforming to the curve of the dome above. They were smaller than the trees of earth, with very large leaves.

The eyes of the earth people kept returning to the dome. It was hard to believe that it was not blue sky, except for giant supports that reached from the

ground to the metal ceiling, hundreds of feet above.

When Peter Yarbro learned that he was in charge of this agricultural dome, his pleasure knew no bounds. His wife couldn't wait to see the home that had been prepared for them—and waiting almost twenty years.

A circle of buildings formed the foundation of the immense metal ceiling, as well as housing thousands of inhabitants. The back walls of the structures were always blank, toward the vapor beyond the miniature civilization. Each city was a world of its own, with a curved horizon at the top of the buildings.

In Yarbro's dome there were few means of travel, as every inch of soil was cultivated. The dome dwellers were past masters at farming, and loved this work more than any other type of labor. To them, it was a pleasure that vied with amusement machines of other cities.

When Mrs. Yarbro entered her new apartment, thirty stories above the ground, and stepped to one of the balconies, the view was superb. She was not interested in the next dome, but wanted to settle her own domain as soon as possible; completely happy.

The rest of the party entered an open car, mounted on a single track, and started for the next city. Every object that moved was operated by the control of gravity, and could develop enormous speed and power. It rolled

swiftly across the open ground, to enter a tunnel three hundred feet wide, which carried all of the commerce between the cities. When it emerged in the next dome, the imitation sky was the same, but only a small portion of the ground surface was cultivated.

Small buildings dotted the level floor, which Morquil explained were the entrances of the mines, unworked for many years. Jerold Brown and his wife remained in this city, in an apartment as well situated as that of the Yarbro's, in the first dome.

Hours passed as they moved from city to city. When they reached the capitol, only the Barrows, McCarthys and Martins remained of the original fourteen. The others were in their own domes, settling down to the new existence.

Every occupation seemed to have been forgotten by the childish people, to come and welcome the beings from another planet. They lined every inch of the way, many deep.

The main dome was three times the size of the others. Supporting pillars, one hundred feet in diameter, seemed vague where they touched the ceiling above. Parks covered most of the ground, dotted here and there by amusement buildings and theaters.

Cars whizzed back and forth, as people gathered to see the strangers. For the first time in generations the amusement buildings were deserted. Since

their arrival, Dick had seen no sign of work, and finally questioned Morquil.

"The people work one mig out of each lix, Dick. It is enough to carry on cultivation of the crops, and keep the amusement buildings running properly and efficiently."

Barrow was stunned. The working period would have to be increased to three immediately, then four and five. They seemed to think that bringing men from another world would do the work, and were apt to be disappointed when he started issuing orders.

When Dick and his wife were installed in their new home, and the McCarthys settled in a nearby apartment, Morquil hesitated. The Martins were anxious to see their own habitation, and looked at the dome man questioningly.

He finally spoke with hesitation. "I have bad news for you. The Martins will have to occupy an apartment in this city for a while. Their dome is out of order. Trouble developed soon after the ship left here, on this trip, and over a thousand people were killed. Every other city is overcrowded with refugees.

"It started with a strange banging on top of the dome, which kept increasing. No one knew what the trouble was or how to stop it, so they waited to see what happened. It didn't sound as if the ceiling was going to fall—but as if the banging came from *outside*! It was sev-

eral migs before they knew the cause.

"When a large section crashed to the ground, it was a complete surprise, and caught the inhabitants unprepared. Soon the air was mixing with the poison gases from outside. People tried to escape, and most of them did. All except those that fell unconscious from the gas.

"Before the last of them reached the tunnel, green things dropped to the ground, and started after those who remained. They had to close the doors between the cities to keep the creatures from entering this dome. It is the first time that anything has happened to my people, and we don't know what it could be."

For a long time the earthmen remained silent. The troubles of this civilization had been dumped into their laps already—in the form of a terrible calamity. It sounded *almost* as if some kind of life forms had broken through the domes *from the outside!* Perhaps there was more danger than could be imagined. One dome had been injured, if not destroyed, and others might follow!

A meeting of the earthmen was called immediately, much to their surprise. Dick dared not let conditions stay as they were, for fear of future trouble. Action must be taken at once.

"We don't know what we're facing, but the fate of the race as well as our own lives, seem to be in danger. The break in the dome might have been accident,

and the moving forms the imagination of fear. But we know that over a thousand people were killed—whatever caused the trouble!"

The men went back to their domes to rest, and plan some means of entering the deserted city, but were disturbed before they had time for sleep.

The agricultural dome had been attacked! The pounding had begun within a short time of their arrival.

One thing was certain, the injured dome had been *attacked!* It was not accident that the metal ceiling fell. *There were living beings in the gases outside their civilization!*

The first dome had been attacked just after the space ship left for the earth, and this attack came just after its return to the domes. There was little doubt that movement of the ship had disturbed the serenity of existence. Perhaps the gas creatures hadn't known what was beneath the metal hives until the ship appeared.

The banging on the agricultural dome, *had to be stopped!* A hole would let in the gas! Rifles, that had been brought back on the ship as curiosities, were given to each earthman. They loaded them carefully while they searched for some means of reaching the trouble.

When the leader of the dome heard what they were planning, he showed them sealed openings to a space between section of metal, which hadn't been used

since the city was built. The dome was constructed in three layers, for insulation, and to give added protection. It was like a maze, to work their way toward the pounding through the network of struts. At times they had to crawl on their hands and knees, at others there were clearly defined passages.

They were afraid, and not ashamed to show it. They were hunting creatures which they knew nothing about—didn't even know whether bullets would affect them! They might face thinking beings, or forms of life that only wanted to search in the domes for food. It was not a pleasant thought.

Every rifle was cocked as they neared the source of the pounding. Every nerve drawn to the finest point.

Suddenly Dick stopped. He was ahead of the others and first to glimpse what they faced. He motioned to use the oxygen masks, as he fastened his own in place.

As they crept closer, light glinted on the giant pointed hammer, operated from beyond the outer layer of metal. It rose and fell at even intervals, through the rent in the upper surface. The ram had already crushed through two thicknesses of metal, and was battering at the inner layer.

The inside section was more like glass than metal and dim light passed through, but the outer layers were opaque. When the huge ram disappeared from

the glow of light it left a gaping hole where it had been. It was of material they had never seen and glistened with a brownish hue. It appeared to shorten and expand in diameter, each time it struck the surface.

For a moment they hesitated, trying to decide the best means of attack. Whatever animated the ram was above their vision, and they had to be close to the opening to see it.

Each time the shiny object descended, the dome vibrated beneath their feet. As long as the vibration remained they were safe, but when it felt like a thud—the metal would be cracking!

Thousands of helpless people were depending on the action of earthmen, for their future existence. They seemed to think that it was only necessary to tell their troubles to these amazing strangers, to have them solved. Stories about the use of water to drive the space ship, had circulated throughout the cities, crediting the newcomers with superhuman powers.

As the little party crept nearer, they separated, to approach the opening from every direction. Dick was to fire first—if he saw anything to shoot at! It might be a powerful machine, clamped to the outer surface, instead of a being that could be injured. The glass globes of the masks were clouding with moisture, and it was hard to see.

A thud came, that didn't vibrate quite as much, and the men

could feel the hair on their necks stiffen. It was now or never, and Dick fired although he was still several feet from the opening. He fired at the topmost section of the ram, hoping it might stop the hammering for a moment even if it didn't injure the equipment. Two more shots rang out, before the object could deliver another blow.

It was alive! The heavy ram jumped from the shock of the bullets, curving convulsively to one side of the opening. Then it drew back out of sight.

CHAPTER VIII

Battle with a Monster

MINUTES passed, while the earthmen hardly dared breathe. Their ebbing heartbeat seemed to almost echo in their breasts. Then the object appeared at the opening, hesitated, and was thrust in!

The hammer was a head!!! It swayed back and forth, like the head of a huge caterpillar, and every gun fired in unison. Shot after shot pumped into the head with rapid and unerring accuracy.

The giant head moved from one side to the other, while two gigantic eyes peered around. It didn't know enough to draw back from the danger zone, but muscular reaction finally moved it out of sight.

Dick crept forward, motioning for the others to wait until he investigated. There was no need

for all of them to enter the danger zone.

He turned the flashlight on, that had been strapped to his waist, and played it around the jagged opening, then climbed to the next level and searched again.

When he crawled to the outer surface, the creature was writhing a few feet away. He motioned, and the other men soon joined him, where they could watch the creature.

They were standing almost on the direct center of the dome, where it was almost flat. The flashlights penetrated the mists enough to mark out the shape of the attacker, when they were all centered.

Suddenly they felt sick to their stomachs.

It was a caterpillar! As loathsome a creature as they could have imagined with its curled body, and the farthest possible thing from a human being. A form of life that existed in the poison gases, where men would die within minutes. The muscles of the creature had to be terrifically strong, to move against the gravity of the huge globe.

Even at the center of the dome, they felt less effect of the neutralized gravity of the interior. It required effort to stand on their feet. Some effect of the neutralizers in the giant pillars, which eliminated most of the weight of the dome, enabled them to handle their bodies.

The creature before them was

accustomed to normal gravity of the heavy planet, and even the metal of the dome was not beyond the pounding of its hammer. What they had mistaken for a battering ram, was the brown tip of the mammoth insect. From end to end it measured over sixty feet. The men finally turned away in disgust, as it writhed in muscular reaction.

John McCarthy was climbing into the opening behind the other men, when he happened to glance back. His flashlight dimly lighted the spot where the monster had been, and *it was gone!*

He hesitated with one foot in the air, then realized what had happened. The movement of the body had moved it farther and farther from the center of the dome. It had reached a place where the curve was sufficient to let it slide on the smooth metal. A moment later, a slight jar was felt through the entire structure—it had slid from the man-made mound, to crash on the ground below. Memory of that sight made a sober return to the interior.

Before they dared rest, metal sheets were carried to the opening and blocked in place. Then dome men welded them to the solid metal. They didn't want to see any of those creatures in the cities!

Twelve hours had passed by the time the opening was sealed, and the earthmen dragged their tired forms through the maze of supports for the last time.

They were almost asleep be-

fore they could reach their own apartments, and tumble onto comfortable beds. They had conquered the first problem.

Dick was awakened by an excited man, talking faster than he could understand the new language. When he grasped what the other was saying, he leaped from bed wide awake.

Every dome had been attacked!!! The caterpillars were pounding many spots on each one. They seemed to be trying to get at the creatures that had destroyed one of their number.

In that moment Dick felt like an old man. He thought of the space ship; the only way of attacking from the outside, and gave that up. There wasn't enough fuel to handle it, and the blasts might injure the metal domes. His mind searched frantically for some way of fighting *all* of the creatures—and knew it couldn't be done.

He was racing across the open ground, while thousands of people gazed at the banging overhead. Suddenly he stopped, then turned back toward his apartment, running just as hard. There was a system of communication between the domes—that *sometimes* worked! It was not efficient, but if he could get in touch with the others immediately, there was *one* chance!

He tried frantically to get a connection, but it wasn't until one of the natives helped with the intricate system of signals, that he heard the voice of An-

drew Smith. A few moments later Phillip Jones answered, then Jerold Brown and Peter Yarbrow. Each man was given quick, yet explicit, instruction.

When Dick turned away from the phone, John McCarthy entered the room, followed by George Martin. The noise in the city had finally aroused them from their slumber.

John started to smile, but the expression on Barrow's face drove all thought of greeting away.

"*What is it?* I thought the people were doing a day's work—but *you*—!!!" His face turned ashen as he ran to the balcony, George Martin only a step behind. After gazing up for a moment, McCarthy turned slowly to face Dick.

"The worms? It sounds like *hundreds of them!* We better work fast, or they'll have the whole roof down around our ears."

"No, John. We can't fight them with guns. *They have attacked every dome on the planet!*"

When full realization came to the big Irishman, he sank slowly into a chair. "Then what? Have you got any plan—or are we helpless?"

"We've got work to do and plenty of it. There's a slight chance of saving the cities. I've already instructed the others."

As the three men raced toward the power plant, Dick explained. John and George were to do the work, while he traveled from

dome to dome to make sure the people were prepared, and see that the power plants were used as he intended.

By the time they reached the entrance of the building, John nodded, and Barrow turned back as the other men entered the door. The first dome people that Dick saw were told to remove everyone from the buildings, and gather them in the open spaces of the parks. *Leaving no one within any structure!*

The expression on his face scared them even more than the pounding of the worms, and they hurried to obey.

Dick jumped into the nearest ground car. He couldn't be bothered traveling on the railroads. This happened to belong to the assistant head of the dome, whom he dispossessed. It jerked crazily across streets and parks, while he learned to handle the controls.

An hour later Dick was back at the powerhouse in the big dome. Every city was ready. In several places the hammering heads had broken through the outer layers, and were banging at the translucent inner ceiling. The creatures *had learned how to break through.*

The first worm that attacked, while the space ship was away, either took its time or didn't realize what was beneath the heavy metal. These creatures were working in earnest.

Heavy insulated cables ran from the powerhouse to the nearest metal pillars, where Mc-

Carthy and Martin were working desperately to fasten them in place. The booming voice of the Irishman had kept the natives back, although they crowded as close as they dared. They were really afraid, when the hammering grew plainer with each passing minute.

When the cables were fastened, John shouted to Dick, who was waiting in the powerhouse. He pulled a heavy switch, at the end of the wires.

The city was suddenly in complete darkness, then it flashed bright again as power flowed back into the thousands of coils in the ceiling material. Twice more it darkened, when the giant switch was thrown, and the lights came on again. This time it stayed bright.

Dick ran to the doorway, and gazed at the dome above. *It was silent!* The people were frightened, and moved restlessly about. Twice more he turned the power into the metal, and after one long darkened period, the city remained bright. *No sound came from the dome!* Either the worms were dead—or frightened away!

Within a week the doors to the deserted city were opened, and the earthmen passed through. When they glimpsed the interior, they stopped in consternation, then started to laugh.

Huge worms covered the ground, and smaller editions of the same species, crawled around them. *They were using the dome for a hatching place!*

They had only entered it to bring forth their young! It was not *brains* that tempted them to attack the city, but the instinct to find a protected place for their eggs. Since they had broken in, many of the young had hatched, and were crawling around the ground.

Sight of the earthmen seemed to excite their feelings, and several of the creatures started toward them. The men fired carefully, and the forms squirmed on the ground. The ones that came behind stopped, and some of the young tried to feed on the remains of their companions.

The sight was so sickening that the earthmen fired at every living thing they could see. Several of the wounded creatures crawled up the huge pillars, to disappear through the opening above, while the men shot at their disappearing forms. When the last caterpillar lay dead, the entire area appeared like a battlefield.

Three days later the gas had been expelled, and the hole in the dome repaired. The population was returning to their homes, burying the carcasses in the fields. The city was livable again, and they knew electric current would stop any future attack of the strange creatures.

Ten years later, Dick Barrow sat on the balcony before his apartment. His son John, eight years old, was playing with Dick McCarthy. While he watched the boys, his mind swung back to the

earth the little group had left so many years before.

For three years they had talked of returning to their home planet, and the evening before the conversation reached a climax. They were starting in two months.

It no longer required years to manufacture fuel for one trip. All machinery was working at top efficiency, and they could turn out enough of the liquid in a month, to drive the ship back and forth several times. Crews of workmen had been trained to care for all mechanical equipment, and there was no longer need for the engineers from the earth.

The day the little party (it now consisted of eighteen with the four children), entered the space ship tears rolled down the cheeks of many of the crowd. The dome people had learned to almost worship these members of an alien race, and thought they would never leave. But when they realized that their leaders were dissatisfied, and wanted to return to their native planet, they aided in every way they knew how.

The ship was out of port for less than a week when the people became restless. They hardly spoke, even at meal time, and for the first time in ten years there were petty quarrels.

When Barrow called them to the main cabin, they came grudgingly, then slowly the expressions changed. Smiles appeared on their faces, and their

heads moved with sheepish nods of assent.

"We're fools, and you all know it. We were happy in the domes, happier than we ever were in our lives before. We didn't appreciate it and longed to return to the earth. We wanted to leave, yet had everything there to live for. We had comfort, every pleasure, and more friends than we can possibly have on our own world. *I feel ashamed!*

"Right now we *wish* that we were back in our own apartments, and might as well admit it. The earth is not what we want, *we want the domes!* They are *home!!!*

"The best thing for us to do, now that we are on the way to the earth, is establish commerce.

We can create friendship between the planets, but we are natives of Jupiter! Our interests will always be with the dome people. We have almost become part of that race, and they have given us everything in return. They even gave us our freedom when we wanted it. *We belong there!*"

Ten years more passed, and John Barrow was beginning to help with his father's work. Vacationing in Jupiter's domes had become so popular on the earth that they were building another city to accommodate the tourist trade. It was the third to be added to the original six. Merchant ships were constantly discharging goods from the earth, and carrying back rare metals.

(Concluded on page 59)



JOHN JONES'S DOLLAR

By HARRY STEPHEN KEELER

Take a board with 64 squares on it. Put a grain of wheat on the first square—two on the second—four on the third. Keep doubling in this manner and you will find there isn't enough wheat in the world to fill the sixty-fourth square. It can be the same with compound interest.

ON THE 201st day of the year 3221 A.D. the professor of history at the University of Terra, seated himself in front of the Visaphone and prepared to deliver the daily lecture to his class, the members of which resided in different portions of the earth.

The instrument before which

he seated himself was very like a great window sash, on account of the fact that there were three or four hundred frosted glass squares visible. In a space at the center, not occupied by any of these glass squares, was a dark oblong area and a ledge holding a piece of chalk. And above the area was a huge brass cylinder;

Amazing Stories, April 1927

toward this brass cylinder the professor would soon direct his subsequent remarks.

In order to assure himself that it was time to press the button which would notify the members of the class in history to approach their local Visaphones, the professor withdrew from his vest pocket a small contrivance which he held to his ear. Upon moving a tiny switch attached to the instrument, a metallic voice, seeming to come from somewhere in space, repeated mechanically: "Fifteen o'clock and one minute—fifteen o'clock and one minute—fifteen o'clock and one min—" Quickly, the professor replaced the instrument in his vest pocket and pressed a button at the side of the Visaphone.

As though in answer to the summons, the frosted squares began, one by one, to show the faces and shoulders of a peculiar type of young men; young men with great bulging foreheads, bald, toothless, and wearing immense horn spectacles. One square, however, still remained empty. On noticing this, a look of irritation passed over the professor's countenance.

But, seeing that every other glass square but this one was filled up, he commenced to talk.

"I am pleased, gentlemen, to see you all posted at your local Visaphones this afternoon. I have prepared my lecture today upon a subject which is, perhaps, of more economic interest than historical. Unlike the pre-

vious lectures, my talk will not confine itself to the happenings of a few years, but will gradually embrace the course of ten centuries, the ten centuries, in fact, which terminated three hundred years before the present date. My lecture will be an exposition of the effects of the John Jones Dollar, originally deposited in the dawn of civilization, or to be more precise, in the year of 1921—just thirteen hundred years ago. This John Jon—"

At this point in the professor's lecture, the frosted glass square which hitherto had shown no image, now filled up. Sternly he gazed at the head and shoulders that had just appeared.

"B262H72476Male, you are late to class again. What excuse have you to offer today?"

From the hollow cylinder emanated a shrill voice, while the lips of the picture on the glass square moved in unison with the words:

"Professor, you will perceive by consulting your class book, that I have recently taken up my residence near the North Pole. For some reason, wireless communication between the Central Energy Station and all points north of 89 degrees was cut off a while ago, on account of which fact I could not appear in the Visaphone, Hence—"

"Enough, sir." roared the professor. "Always ready with an excuse, B262H72476Male. I shall immediately investigate your tale."

From his coat pocket, the professor withdrew an instrument which, although supplied with an earpiece and a mouthpiece, had no wires whatever attached. Raising it to his lips, he spoke:

"Hello. Central Energy Station, please." A pause ensued. "Central Energy Station? This is the professor of history at the University of Terra, speaking. One of my students informs me that the North Pole region was out of communication with the Visaphone System this morning. Is that statement true? I would—"

A voice, apparently from nowhere, spoke into the professor's ear. "Quite true, Professor. A train of our ether waves accidentally fell into parallelism with a train of waves from the Venus Substation. By the most peculiar mischance, the two trains happened to be displaced, with reference to each other, one half of a wave length, with the unfortunate result that the negative points of one coincided with the positive points of maximum amplitude of the other. Hence the two wave trains nullified each other and communication ceased for one hundred and eighty-five seconds—until the earth had revolved far enough to throw them out of parallelism."

"Ah! Thank you," replied the professor. He dropped his instrument into his coat pocket and gazed in the direction of the glass square whose image had so aroused his ire. "I apologize, B262H72476Male, for my suspi-

cions as to your veracity—but I had in mind several former experiences." He shook a warning forefinger. "I will now resume my talk."

"A moment ago, gentlemen, I mentioned the John Jones Dollar. Some of you who have just enrolled with the class will undoubtedly say to yourselves: 'What is a John Jones? What is a Dollar?'"

"In the early days, before the present scientific registration of human beings was instituted by the National Eugenics Society, man went around under a crude multi-reduplicative system of nomenclature. Under this system there were actually more John Joneses than there are calories in a British Thermal Unit. But there was one John Jones, in particular, living in the twentieth century, to whom I shall refer in my lecture. Not much is known of his personal life except that he was an ardent socialist—a bitter enemy, in fact, of the private ownership of wealth.

"Now as to the Dollar. At this day, when the Psycho-Erg, a combination of the Psych, the unit of esthetic satisfaction, and the Erg, the unit of mechanical energy, is recognized as the true unit of value, it seems difficult to believe that in the twentieth century and for more than ten centuries thereafter, the Dollar, a metallic circular disk, was being passed from hand to hand in exchange for the essentials of life.

"But nevertheless, such was

the case. Man exchanged his mental or physical energy for these Dollars. He then re-exchanged the Dollars for sustenance, raiment, pleasure, and operations for the removal of the vermiform appendix.

"A great many individuals, however, deposited their Dollars in a stronghold called a bank. These banks invested the Dollars in loans and commercial enterprises, with the result that, every time the earth traversed the solar ecliptic, the banks compelled each borrower to repay, or to acknowledge as due, the original loan, plus six one-hundredths of that loan. And to the depositor, the banks paid three one-hundredths of the deposited Dollars for the use of the disks. This was known as three percent, or bank interest.

"Now, the safety of Dollars, when deposited in banks, was not absolutely assured to the depositor. At times, the custodians of these Dollars were wont to appropriate them and proceed to portions of the earth, sparsely inhabited and accessible with difficulty. And at other times, nomadic groups known as 'yeggmen' visited the banks, opened the vaults by force, and departed, carrying with them the contents.

"But to return to our subject. In the year 1921, one of these numerous John Joneses performed an apparently inconsequential action which caused the name of John Jones to go down in history. What did he do?

"He proceeded to one of these banks, known at that time as 'The First National Bank of Chicago,' and deposited there, one of these disks—a silver Dollar—to the credit of a certain individual. And this individual to whose credit the Dollar was deposited was no other person than the fortieth descendant of John Jones who stipulated in paper which was placed in the files of the bank, that the descendancy was to take place along the oldest child of each of the generations which would constitute his posterity.

"The bank accepted the Dollar under that understanding, together with another condition imposed by this John Jones, namely, that the interest was to be compounded annually. That meant that at the close of each year, the bank was to credit the account of John Jones's fortieth descendant with three one-hundredths of the account as it stood at the beginning of the year.

"History tells us little more concerning this John Jones—only that he died in the year 1931, or ten years afterward, leaving several children.

"Now you gentlemen who are taking mathematics under Professor L127M72421Male, of the University of Mars, will remember that where any number such as X , in passing through a progressive cycle of change, grows at the end of that cycle by a proportion p , then the value of the original X , after n cycles, becomes $x(1+p)^n$.

"Obviously, in this case, X equalled one Dollar; p equalled three one-hundredths; and n will depend upon any number of years which we care to consider, following the date of deposit. By a simple calculation, those of you who are today mentally alert can check up the results that I shall set forth in my lecture.

"At the time that John Jones died, the amount in the First National Bank of Chicago to the credit of John Jones the fortieth, was as follows."

The professor seized the chalk and wrote rapidly upon the oblong space:

1931 10 years elapsed \$1.34

"The peculiar sinous hieroglyphic," he explained, "is an ideograph representing the Dollar.

"Well gentlemen, time went on as time will, until a hundred years had passed by. The First National Bank still existed, and the locality, Chicago, had become the largest center of population upon the earth. Through the investments which had taken place, and the yearly compounding of interest, the status of John Jones's deposit was now as follows." He wrote:

2021 100 years elapsed \$19.10

"In the following century, many minor changes, of course, took place in man's mode of living; but the so-called socialists still agitated widely for the cessation of private ownership of wealth; the First National Bank still accepted Dollars for safe keeping, and the John Jones

Dollar still continued to grow. With about thirty-four generations yet to come, the account now stood:

2121 200 years elapsed \$364

"And by the end of the succeeding hundred years, it had grown to what constituted an appreciable bit of exchange value in those days—thus:

2221 300 years \$6,920

"Now the century which followed contains an important date. The date I am referring to is the year 2299 A.D., or the year in which every human being born upon the globe was registered under a numerical name at the central bureau of the National Eugenics Society. In our future lessons which will treat with that period of detail, I shall ask you to memorize that date.

"The socialists still agitated, fruitlessly, but the First National Bank of Chicago was now the first International Bank of the Earth. And how great had John Jones's Dollar grown? Let us examine the account, both on that important historical date, and also at the close of the 400th year since it was deposited. Look:

2299 378 years \$68,900

2321 400 years \$132,000

"But gentlemen, it had not reached the point where it could be termed an unusually large accumulation of wealth. For larger accumulations existed upon the earth. A descendant of a man once known as John D. Rockefeller possessed an accumulation of

great size, but which, as a matter of fact, was rapidly dwindling as it passed from generation to generation. So, let us travel ahead another one hundred years. During this time, as we learn from our historical and political archives, the socialists began to die out, since they at last realized the utter futility of combating the balance of power. The account, though, now stood: 2421 500 years \$2,520,000

"It is hardly necessary for me to make any comment. Those of you who are most astute, and others of you who flunked my course before and are now taking it the second time, of course know what is coming.

"During the age in which this John Jones lived, there lived also a man, a so-called scientist called Metchnikoff. We know, from a study of our vast collection of Egyptian Papyri and Carnegie Library books, that this Metchnikoff promulgated the theory that old age—or rather senility—was caused by colon-bacillus. This fact was later verified. But while he was correct in the etiology of senility, he was crudely primeval in the therapeutics of it:

"He proposed, gentlemen, to combat and kill this bacillus by utilizing the fermented lacteal fluid from a now extinct animal called the cow, models of which you can see at any time at the Solaris Museum."

A chorus of shrill, piping laughter emanated from the brass cylinder. The professor

waited until the merriment had subsided and then continued:

"I beg of you, gentlemen, do not smile. This was merely one of the many similar quaint superstitions existing in that age.

"But a real scientist, Professor K122B62411Male, again attacked the problem in the twenty-fifth century. Since the cow was now extinct, he could not waste his valuable time experimenting with fermented cow lacteal fluid. He discovered the old *v*-rays of Radium—the rays which you physicists will remember are not deflected by a magnetic field—were really composed of two sets of rays, which he termed the *g* rays and the *e* rays. These last named rays—only when isolated—completely devitalized all colon-bacilli which lay in their path, without in the least affecting the integrity of any interposed organic cells. The great result, as many of you already know, was that the life of man was extended to nearly two hundred years. That, I state unequivocally, was a great century for the human race.

"But I spoke of another happening—one, perhaps, of more interest than importance. I referred to the bank account of John Jones the fortieth. It, gentlemen, had grown to such a prodigious sum that a special bank and board of directors had to be created in order to care for, and reinvest it. By scanning the following notation, you will

perceive the truth of my statement:

2521 600 years \$47,900,000

"By the year 2621 A.D., two events of stupendous importance took place. There is scarcely a man in this class who has not heard of how Professor P222-D29333Male accidentally stumbled upon the scientific fact that the effect of gravity is reversed upon any body which vibrates perpendicularly to the plane of the ecliptic with a frequency which is an even multiple of the logarithm of 2 of the Napierian base 'e.' At once, special vibrating cars were constructed which carried mankind to all planets. That discovery of Professor P222D29333Male did nothing less than open up seven new territories to our inhabitants; namely: Mercury, Venus, Mars, Jupiter, Saturn, Uranus, and Neptune. In the great land rush that ensued, thousands who were previously poor became rich.

"But, gentlemen, land which so far had been constituted one of the main sources of wealth, was shortly to become valuable for individual golf links only, as it is today, on account of another scientific discovery.

"This second discovery was in reality, not a discovery, but the perfection of a chemical process, the principles of which had been known for many centuries. I am alluding to the construction of the vast reducing factories, one upon each planet, to which the bodies of all persons who have

died on their respective planets are at once shipped by Aerial Express. Since this process is used today, all of you understand the methods employed; how each body is reduced by heat to its component constituents: hydrogen, oxygen, nitrogen, carbon, calcium, phosphorus, and so forth; how these separated constituents are stored in special reservoirs together with the components from thousands of other corpses; how these elements are then synthetically combined into food tablets for those of us who are yet alive—thus completing an endless chain from the dead to the living. Naturally then, agriculture and stock-raising ceased, since the food problem, with which man had coped from time immemorial, was solved. The two direct results were, first—that land lost the inflated values it had possessed when it was necessary for tillage, and second—that men were at last given enough leisure to enter the fields of science and art.

"And as to the John Jones Dollar, which now embraced countless industries and vast territory on the earth, it stood, in value: 2621 700 years \$912,000,000

"In truth, gentlemen, it now constituted the largest private fortune on the terrestrial globe. And in that year, 2621 A. D., there were thirteen generations yet to come, before John Jones the fortieth would arrive.

"To continue. In the year 2721 A. D., an important political

battle was concluded in the Solar System Senate and House of Representatives. I am referring to the great controversy as to whether the Earth's moon was a sufficient menace to interplanetary navigation to warrant its removal. The outcome of the wrangle was that the question was decided in the affirmative. Consequently—

"But I beg your pardon, young men. I occasionally lose sight of the fact that you are not so well informed upon historical matters as myself. Here I am, talking to you about the moon, totally forgetful that many of you are puzzled as to my meaning. I advise all of you who have not yet attended the Solaris Museum on Jupiter, to take a trip there some Sunday afternoon. The Interplanetary Suburban Line runs trains every half hour on that day. You will find there a complete working model of the old satellite of the Earth, which, before it was destroyed, furnished this planet light at night through the crude medium of reflection.

"On account of this decision as to the inadvisability of allowing the moon to remain where it was, engineers commenced its removal in the year 2721. Piece by piece, it was chipped away and brought to the Earth in Interplanetary freight cars. These pieces were then propelled by Zoodolite explosive, in the direction of the Milky Way, with a velocity of 11,217 meters per second. This velocity, of course,

gave each departing fragment exactly the amount of kinetic energy it required to enable it to overcome the backward pull of the Earth from here to infinity. I dare say those moon-hunks are going yet.

"At the start of the removal of the moon in 2721 A. D., the accumulated wealth of John Jones the fortieth, stood:

2721 800 years \$17,400,000,000

"Of course, with such a colossal sum at their command, the directors of the fund had made extensive investments on Mars and Venus.

"By the end of the twenty-eighth century, or the year 2807 A. D., the moon had been completely hacked away and sent piecemeal into space, the job having required 86 years. I give, herewith, the result of John Jones's Dollar, both at the date when the moon was completely removed and also at the close of the 900th year after its deposit:

2807	886 years	\$219,000,000,000
2821	900 years	\$332,000,000,000

"The meaning of those figures, gentlemen, as stated in simple language, was that the John Jones Dollar now comprised practically all the wealth on Earth, Mars, and Venus—with the exception of one university site on each planet, which was, of course, school property.

"And now I will ask you to advance with me to the year 2906 A. D. In this year the directors of the John Jones fund awoke to the fact that they were in a dreadful predicament. Ac-

cording to the agreement under which John Jones deposited his Dollar away back in the year 1921, interest was to be compounded annually at three percent. In the year 2900 A. D., the thirty-ninth generation of John Jones was alive, being represented by a gentleman named J664M42721Male, who was thirty years of age and engaged to be married to a young lady named T246M42652Female.

"Doubtless, you will ask, what was the predicament in which the directors found themselves. Simply this:

"A careful appraisalment of the wealth on Neptune, Uranus, Saturn, Jupiter, Mars, Venus, and Mercury, and likewise Earth, together with an accurate calculation of the remaining heat in the Sun and an appraisalment of that heat at a very decent valuation per calorie, demonstrated that the total wealth of the Solar System amounted to \$6,309,525,241,362.15.

"But unfortunately, a simple computation showed that if Mr. J664M42721Male married Miss T246M42652Female, and was blessed by a child by the year 2921, which year marked the thousandth year since the deposit of the John Jones Dollar, then in that year there would be due the child, the following amount: .

1,000

2921 years \$6,310,000,000,000

"It simply showed beyond all possibility of argument, that by 2921 A. D., we would be \$474,-

758,637.85 shy—that we would be unable to meet the debt to John Jones the fortieth.

"I tell you, gentlemen, the Board of Directors was frantic. Such wild suggestions were put forth as the sending of an expeditionary force to the nearest star in order to capture some other Solar System and thus obtain more territory to make up the deficit. But that project was impossible on account of the number of years that it would have required.

"Visions of immense law suits disturbed the slumber of those unfortunate individuals who formed the John Jones Dollar Directorship. But on the brink of one of the biggest civil actions the courts had ever known, something occurred that altered everything."

The professor again withdrew the tiny instrument from his vest pocket, held it to his ear and adjusted the switch. A metallic voice rasped: "Fifteen o'clock and fifty-two minutes—fifteen o'clock and fifty-two minutes—fift—" He replaced the instrument and went on with his talk.

"I must hasten to the conclusion of my lecture, gentlemen, as I have an engagement with Professor C122B24999Male of the University of Saturn at sixteen o'clock. Now, let me see; I was discussing the big civil action that was hanging over the heads of the John Jones Dollar directors.

"Well, this Mr. J664M42721Male, the thirty-ninth descend-

ant of the original John Jones, had a lover's quarrel with Miss T246M42652Female, which immediately destroyed the probability of their marriage. Neither gave in to the other. Neither ever married. And when Mr. J664M42721Male died in 2946 A. D., of a broken heart, as it was claimed, he was single and childless.

"As a result, there was no one to turn the Solar System over to. Immediately, the Interplanetary Government stepped in and took possession of it. At that instant, of course, private property ceased. In the twinkling of an eye almost, we reached the true

socialistic and democratic condition for which man had futilely hoped throughout the ages.

"That is all today, gentlemen. Class is dismissed."

One by one, the faces faded from the Visaphone.

For a moment, the professor stood ruminating.

"A wonderful man, that old socialist, John Jones the first," he said softly to himself, "a far-seeing man, a bright man, considering that he lived in such a dark era as the twentieth century. But how nearly his well-contrived scheme went wrong. Suppose that fortieth descendant had been born?"

THE END

WANTED— 7 FEARLESS ENGINEERS

Space ships from the earth, designed after the original Jupiter ship, were searching the little known planets for minerals. Domes were being built on three of the smaller globes, and pioneering humans migrated to new worlds. There was danger, yes, but also fame and fortune for the hardy people who would inhabit them.

The earth had changed a lot, since the visit of the space ship. They had adopted the principle of controlling gravity, and tremendous structures were the result. New buildings were several times as large as the greatest structure of ten years before. Both planets had benefited from

(Concluded from page 49)

the friendship, and both were happier as a result.

As Dick Barrow's mind ran over these facts, he smiled and spoke aloud to himself. "And all of this in twenty years—it seems incredible!"

"What did you say, dear?" asked Dolores.

Dick smiled as he glanced at her. "It's nothing. I was just thinking. Remember the night you fell in front of my table in the hotel? And I thought it was *accidental*—you scheming gold-digger!"

The ruler of the domes ducked when his wife threw her book—but she didn't throw it very hard.

THE END



"Look at 'em!" gasped Lester. "It's a nightmare!"

WACKY WORLD

By EDMOND HAMILTON

Lester and Hoskins crossed the void and landed on the bleak and forbidding surface of the planet Mars. But they found no welcome; rather, an incredibly and nightmarish population bent only upon—revenge!

THE dull red planet was expanding across the heavens with frightening speed. The rocket fell toward it with its snouted prow spewing fire to check its fall. Shrill scream of splitting air came to the two men inside the craft.

Young Brett Lester felt a climbing nausea as he was flung forward against the recoil straps. He gulped and choked and tried to look downward at the surface of Mars. He saw a flat red plain with a sprawling black blotch in the north.

Hoskins, who held the pilot chair, was fighting hard to keep the rocket from spinning as it fell. His square, competent face

was a strained brown mask as his stubby fingers jabbed the firing buttons. There was a final blast of rockets that shook Lester's brain, a jarring, tumbling thump, and then numb silence.

They were on Mars. Lester knew it, and awe possessed him. For the first time, men had left Earth and crossed to a neighbor planet. He struggled for words with which to epitomize this historic moment.

But Hoskins spoke first. The older engineer was tenderly fingering his thigh, and an expression of great joy spread across his face.

"I think my boil just broke," he said.

Lester felt dashed and disgusted. "Your boil!" he cried. "Here we are, the first men ever to land on Mars, and what's the first thing we start talking about? Your boil!"

Hoskins stared. "That boil's been devilling me for weeks. You try sitting on a boil, and see how you like it."

"All right, all right, let's forget about your boil!" Lester cried, his lean young face excited. "We're on Mars, man—can't you get that through your thick, unimaginative skull?"

Hoskins stared out the window. Through the thick quartz glass could be seen nothing but a desert of drifting red sand, marching dunes and ridges that cut off their vision a few hundred feet away.

"Yeah, we made it," said Hoskins abstractedly. "Now if we just get back safely, we'll have added a lot of data to rocket mechanics science."

"Is rocket mechanics all you can think of?" demanded Lester. "Here's a whole unknown world in front of us."

Hoskins shrugged his square shoulders. "It's not unknown. We know from the astronomers just what Mars must be like—an arid globe with hardly any oxygen, no water, and very cold."

"But we don't know what kind of living creatures may exist here!" Lester cried with youthful enthusiasm.

Hoskins uttered a grunt. "You must have been reading those wild pseudo-scientific stories

they publish by the hundreds these days—all about bug-eyed red Martians and horrible monsters and so on."

Lester flushed. "Well, I used to read a lot of the stories. As a matter of fact, that's what got me interested in rocket engineering."

The older engineer jeered. "I thought so. Well, you can forget your bug-eyed Martians and all that. You ought to know this world's too cold and has too little atmosphere to support any animal life."

"I know," Lester admitted, "but I was sort of hoping we might find—"

"Forget it," Hoskins advised. "There's nothing here except maybe a few lichens."

"But can't we go out now?" Lester pressed eagerly. "I'd just like to see."

The older engineer shrugged. All right. We'll need those felt suits and oxygen helmets, of course. I'd better run an air test first."

He busied himself with the air tester. Young Lester continued to peer eagerly out at the crimson desert. It, at least, looked exactly as he had expected—a somber expanse of red sand, not greatly unlike an Earth desert except for the hue. Twisting little sand-devils whisked to and fro, and over all fell the brassy light of the shrunken Sun.

He turned as Hoskins made a bewildered sound. "I can't understand this! The tester shows air

almost as dense and warm and oxygenated as the air of Earth!"

Even Lester knew that was impossible. "You made an error. Let me try it."

He got the same result. The air outside, declared the instrument, was only a little cooler than Earth's and possessed as much oxygen.

"It's crazy!" blurted Hoskins, wide-eyed. "The conditions here must have thrown the tester out of gear. No, that can't be—"

"Let's open the door and find out," Lester suggested.

They finally tried unscrewing the door a trifle, standing ready to shut it instantly if the air outside proved unbreathable. But to their increased amazement, the tester had not lied. The air that came into the opening was fairly warm, and seemed exactly like Earth air to their lungs.

They opened the door wide and stepped out of the rocket onto the red sand. It was like a pleasant October afternoon. The brassy sun shone benignly upon them, and the cool wind caressed their faces.

"Holy cats, the astronomers have been all wrong!" Hoskins exclaimed. "But it's still all insane. How can a little planet like Mars hold an atmosphere like this, and how can it be so warm?"

They took a few experimental steps. They found that they felt somewhat lighter and that their steps had a floating quality, but that they could move quite eas-

ily. But the warmth and oxygen continued to mystify them.

"I swear it's all beyond me," Hoskins was muttering. "By all the laws of astronomy and physics, Mars shouldn't be like this."

Lester's eyes lightened. "If there's warmth and air and water vapor like this, there may be living creatures here after all!"

Hoskins snorted. "Your bug-eyed red Martians of the stories, eh? I wish you'd forget that foolishness."

"I still think there might be some kind of animal life," Lester defended. He added, "As we were landing, I saw a big black blotch in the north. What could that be?"

"Probably an outcrop of dark rock in the desert," Hoskins ventured. "We might be able to see from the crest of that next ridge."

They trudged up the red slope, their feet slipping in the sand. Both men felt numb with bewilderment still at the unexpected earthliness of conditions.

They reached the crest of the sandy ridge. From here, they could see miles north across the desert toward the looming black mass. But neither man looked toward it. Their attention was riveted by four figures who had been walking across the sands nearby, and who had stopped and then turned toward the Earthmen.

The four figures were men. But they were not like the

Earthmen. They had bright red skins, hairless, domed skulls, bulging chests and stilt-like limbs. They wore a complicated harness of belts, from which hung at each man's waist a gleaming metal tube.

Their faces were much like Earthmen's faces, though they were red-skinned and solemnly cadaverous in expressions. But their eyes were different. Their eyes were bulging and faceted, like the eyes of insects. Eyes out of a nightmare!

"I'm delirious!" wailed Hoskins. "It must have been the shock. I can see four bug-eyed red men coming toward us!"

"I can see them too!" gulped young Lester. "But they can't be real—"

He stopped. The four bug-eyed red Martians had strolled to within a few feet and now stood eyeing the Earthmen. One of the four spoke.

"Hello, strangers!" the Martian hailed them in perfect English. "Going back to the City?"

Hoskins looked at Lester. Lester looked at Hoskins. Then the older engineer laughed lightly.

"It just shows how easily shock can foster delusions," he told the younger man. "Pinch me, Brett."

Lester reached and pinched. The older man uttered a howl of pain. "You didn't need to pinch my boil!"

They suddenly fell silent as they realized that the four bug-eyed red Martians were still

there, facing them in an impatient way.

"What's the matter with you fellows?" demanded the foremost Martian impatiently. "Are you crazy or something?"

"He does exist and he does speak English," Hoskins articulated with difficulty. "You see and hear him, don't you?"

"Yes," swallowed Lester shakily. "I see and hear him but I still don't believe it."

"Let me introduce myself, boys," the foremost Martian was saying. "I'm Ard Vark. What's your names?"

They told him, and his bulging, faceted eyes brightened as he bowed to them.

Then Ard Vark motioned to his three fellow Martians. "My friends here are Ok Vok, Zing Zau and Moo Koo."

"How in the world can you keep their names straight?" Lester asked, speaking the first thing that came into his whirling mind.

Ard Vark's red face darkened. "We have a tough time with our names, I've got to admit. Why the devil couldn't we have been called by something sensible?"

Neither Lester nor Hoskins had any answer to that. Ard Vark was continuing in a genial manner. "You fellows look new. When'd you get here?"

"Just—just a little while ago," Lester answered unsteadily.

"I thought so," remarked Ard Vark. "Haven't seen anybody just like you two around here

before. Well, let's get back to the City."

Hoskins and Lester stared. It was a city, that sprawling black mass in the north. From this distance it appeared to be an heterogeneous jumble of fantastically varied architectures, with all kinds of towers, domes and minarets standing out against the brassy sky.

The two Earthmen were so numbed by shock that it took them a few minutes to realize that they were strolling with Ard Vark and the other red Martians toward the distant city.

"This," Hoskins muttered thickly to Lester, "is too much. First, bug-eyed Martians like in those crazy stories. Now a city—"

"You don't suppose we were killed when the rocket landed and that we're in some kind of after-life?" Lester asked wildly.

Hoskins grunted. "This doesn't look like any afterworld to me. Besides, my boil wouldn't be hurting me yet if I was dead."

One of the Martians—it might have been Ok Vok or Moo Koo—yelled and pointed west across the desert. A creature like something out of a bad dream was galloping toward them.

It was a scaled green monster of elephantine bulk, and looked like a cross between a dragon and a crocodile. It came toward them on ten short legs, its enormous jaws gaping to show great white fangs.

Ard Vark whipped out the

metal tube at his belt and levelled it at the monster. A brilliant white ray lanced from the tube and hit the creature. The green monster recoiled, and then fled away.

"What—what was that?" quavered Hoskins.

"A *whulp*," grunted Ard Vark, holstering the metal ray-tube. "They're damned pests."

"What kind of a ray was that you turned on him?" Lester asked eagerly.

"Well, it's *supposed* to be a disintegrating ray," Ard Vark said. "As a matter of fact, it won't disintegrate anything. It's just a harmless beam of light, but the *whulps* are scared of it."

Hoskins stared at him. "But if it's supposed to be a disintegrating ray, why won't it work?"

Ard Vark snorted. "Because the fellow who thought it up didn't know anything about science. How can a fellow who doesn't know any science devise a disintegrator?"

Ok Vok, beside him, nodded in corroboration. "That's right. We use these rays for flashlights—that's all they're good for."

Lester looked at Hoskins, and the older engineer returned the look. By this time they were near the fantastic city, and Ard Vark pointed to a great landing-field near it.

It was obviously a space-port. Upon its smooth tarmac rested hundreds of space-ships of different designs. Some were cylindrical and others were arrow-

shaped, torpedo-shaped or disk-shaped. All the ships were mightily impressive in appearance. But Ard Vark sneered at them.

"That's another example of it," he snorted. "We've got all those space-ships and not one of 'em will fly an inch, for the fellows who thought 'em up didn't know enough science to make 'em workable."

"My name is Wilson Hoskins," intoned Hoskins fervently. "I'm thirty-five years old and I can multiply twelve by twelve. I'm *not* crazy—"

"Ah, here we are back in the City," interrupted Ard Vark. "Where are you fellows heading for?"

"We—we just want to look around," stammered Lester.

The Martian metropolis was a truly astounding sight. It consisted of some scores of good-sized cities, each with its own style of architecture, all crowded together side by side.

The section they had entered was one of crumbling buildings of black stone, squat and massive and very ancient looking. Beyond that, Lester could glimpse a section of beautiful transparent domes surrounded by gardens. Next to that was a section of shining, hexagonal chromium towers, and a further section of tall copper conical structures, and a still further section of buildings that looked like silver cylinders set on end.

More bewildering than this fantastic multiplicity of out-

landish architectures was the motley character of the crowd in the streets. For there was a big crowd. But only a fraction of it consisted of bug-eyed red men like Ard Vark and his companions. The others made up scores of different races, each grotesquely different from the others in size, shape and color.

Lester's stunned eyes beheld Martians who looked like little pink midgets without arms; great green Martians who towered twenty feet high and had six arms; Martians who had four eyes, and others with three eyes, and others who had no eyes at all but had feelers protruding from their faces; blue Martians, and black Martians, and yellow Martians, and violet Martians, not to speak of a few in varying shades of magenta, cerise and puce.

This amazing crowd wore garments that ranged from a simple harness of belts such as the bug-eyed red men wore, to silken trappings blazing with jewels. Many of them carried swords or daggers, but most of them appeared to be equipped with ray-tubes or ray-guns.

Most surprising of all, the women of the crowd were without exception far more attractive than the men. In fact, Brett Lester perceived that every Martian girl in the throng, be she brown, green, blue or red, was by Earth standards a ravishing beauty.

Hoskins was gasping. "Where did they all come from?"

Ard Vark stared at him. "What do you mean? They came the same way we all did."

"I don't understand," gulped Hoskins. "I don't understand anything here. And I don't want to. All I want is to get back to Earth. Come on, Lester."

He grabbed Lester's hand. But Ard Vark intervened. The tall bug-eyed red man was staring at them with sudden suspicion.

"Let's get this straight," rasped Ard Vark. "Do you mean to say that you two weren't created here like the rest of us—that you came here from *Earth*?"

"Why, of course," cried Lester. With eager pride, he explained. "We were too stunned to tell you before. But we're the first Earthmen ever to visit this planet."

"Earthmen?" cried Ard Vark. His eyes blazed and his voice rose to a roar. "*Earthmen*?"

A sudden hush fell over the chattering, fantastic throng in the streets. Green, red, blue and yellow Martians crowded in sudden fierce excitement around the two explorers.

"You're sure—you're quite sure, that you two are Earthmen?" asked Ard Vark with desperate eagerness.

"Of course we are," announced Lester proudly. He saw a chance at last to speak historic words. "Friends of Mars," he began, "upon this unprecedented occasion—"

"They're Earthmen—get them,

boys!" yelled Ok Vok. And with a roaring shout, the whole crowd plunged toward Lester and Hoskins.

Knocked from their feet, buffeted about by clutching hands seeking to grasp them, Lester and his comrade were only saved from immediate annihilation by the fact that the great number of their attackers hampered them. They sprawled, trying to scramble up, and heard Ard Vark's roaring voice checking the crowd.

"Wait, fellows!" Ard Vark was roaring. "We don't want to kill 'em as quick as all this. We want to take them to the Supers. The Supers will be able to think up the most appropriate way to execute 'em."

Lester and Hoskins were hauled to their feet. They were appalled by the blaze in the eyes of the fantastic Martian throng.

"Don't try to escape, you two!" Ard Vark rasped to them. "You're going to the Supers. They'll decide the best punishment for your crime."

"What crime?" stammered Hoskins feebly. "What did we ever do to you?"

"As though you didn't know!" raged Ard Vark. "It was you dirty Earthmen who created us, and well you know it."

"*Created* you?" gasped Lester. "What in the name of heaven are you talking about?"

"This settles it," announced Hoskins with conviction. We're lying back in the rocket uncon-

scious. Boil or no boil, I'm dreaming."

The two were hauled forward through a hostile, raging throng of Martians of every size and shape and hue. Arms, claws, feelers and knives reached toward them. Hate of them seemed to be universal.

Ard Vark and his comrades dragged the Earthmen on, through the madly variegated sections of the amazing city, until they reached a section that was composed of enormous golden pyramids. They were hauled into the largest of the pyramidal structures, the crowd following.

Inside were towering machines, glowing arcs, a paraphernalia of scientific equipment. Moving about in experiment or sitting motionless in study were scores of the most hideous Martians they had yet seen—octopoid creature with enormous staring eyes and eight black tentacles.

"Are these the Supers?" cried Lester, recoiling.

"Sure, they're the Super-scientific Martians, as well *you* know," rasped Ard Vark. "Come on—there's Agan, their chief scientist."

They were hauled in front of an octopoid creature who contemplated them for a moment with staring eyes and then spoke in whistling tones.

"My powers of telepathy enable me to see at once that these are two Earthmen who have landed on our world," he piped

in stilted English. "One is named Lester and the other is named Hollins."

"Hoskins," corrected the older engineer falteringly.

The octopoid Agan gave him an angry look. "That's close enough," he snapped. "After all, even a telepathist can make a mistake."

Lester was goggling at the creature. "Super-scientific Martians with octopus bodies!" he choked. "It's just like in a fantastic novel I read—"

Agan said sourly in his piping tones, "Yes, it was that story that was responsible for our being here."

Lester's jaw sagged. "Do you mean to say that because a story about octopus Martians was written back on Earth, you octopus-men appeared here? That the story *created* you?"

"Certainly," snapped the octopoid. "Does that surprise you?"

Hoskins laughed a little wildly. "Oh, no, it doesn't surprise us. Nothing on this wacky planet could surprise us any more."

"Shut up, Hoskins," ordered Lester. He addressed himself earnestly to Agan. "Let's get this straight. How in the world could a story written about octopus Martians create octopus Martians here, forty million miles away?"

"I see you know little about mental force," remarked Agan, deftly scratching the back of his bulbous head with a tentacle. "It wasn't merely the fact that a

story was written about us that did it. It was the fact that hundreds of thousands of people read that story, and imagined us as they read it."

"I still don't see—" muttered Lester.

"It's simple," snapped the octopus man impatiently. "Mental radiation is a definite physical force, as tangible as radio waves through in a far different spectrum. Those high frequency mental waves, when intense enough, can cause a reshaping of free atoms into new forms."

He waved a tentacle didactically. "When you think hard about a certain object you can visualize it, can't you? That's because your mind's mental radiation has momentarily reshuffled atoms into a transitory shadowy image of what you're thinking of. The image only lasts a moment and then it's gone, of course.

"But when thousands of people all imagine the same thing, their cumulative mental force is so powerful that it can reshuffle atoms into a permanent new form. That's why, when thousands of Earth readers read of the octopus-men in the story and imagined them, their mental radiation acted upon the free atoms of this planet and shifted them into living creatures such as they imagined into *us*."

Lester objected feebly. "But why wouldn't the effect of the massed mental radiation been manifested on Earth, where the

readers all were, instead of away out here on Mars?"

Agan explained. "That's simple. Mental radiation follows definite lines of force, just like magnetic lines of force. The lines of mental force flow outward through the solar system, from Earth toward Mars. So all the weird Martians whom people of Earth imagine automatically are created here from the free atoms of this planet."

"It's too much for me," asserted Hoskins thickly.

Lester looked at Ard Vark and the other angry bug-eyed men. "Then all these other different races of Martians here—"

"They were all described by some Earth author in a story," Agan answered, "and each time when the story was read and imagined by thousands of readers, the Martians described in it were created here."

The octopoid creature added, "Each time an author described his Martians, he described their city. Each city was different from the others. That's why we have so many different kinds of buildings and people."

"Yes, and that's why Mars is so cursed crowded these days!" exclaimed Ard Vark angrily. His bulging eyes glared at Hoskins and Lester. "And it's all you Earthmen's fault. If you hadn't started writing so many cursed stories about Martians, we'd never have got in such a mess."

The bug-eyed man made an angry gesture toward the crowd

behind him. "Look at that crowd—Martians of every size, shape and color! Why the devil couldn't your Earthmen's writers have been satisfied to have just one kind of Martian in your stories? Then everything would have been nice here. But no, every cursed writer has to think up a goofier kind of Martian, and the planet is getting so crowded with weird jerks of all kinds that you don't know whether a new creature is some kind of fierce monster or just a new kind of Martian!"

Ok Vok, beside him, added his own fierce accusation. "And why the devil did you have to give us all such crazy names? Look at me—Ok Vok! How would *you* like to have a name like that? It sounds like somebody choking to death."

Lester weakly attempted a defense. "But the writers who turned out those stories and the people who read them never dreamed that they were actually creating you all out here!"

"That's the trouble—you Earthmen don't seem to know anything!" snapped Agan, the octopus-man. "Take us, for instance—we were described as super-scientific Martians, with huge brains and unparalleled scientific knowledge. But when we appeared here, we didn't know beans about science."

"Why didn't you?" Lester asked wonderingly. "If the author had described you as possessing great scientific knowledge—"

"Ah, but the author himself

didn't know anything about science," retorted Agan. "He didn't tell anything about our scientific abilities, because he was so ignorant of science he couldn't."

Hoskins stared around the hall of machines and octopoid experimenters. "You seem to know a lot about science now."

"That," said Agan, "is only because we fortunately had big brains and thus were able to learn a lot for ourselves. We had to pick up all our science that way! Our author could never have given us any, for I doubt if he knew the difference between a neutron and a nova."

"That's the devil of it," agreed Ard Vark gloomily. "They don't know anything about science, and so all the super-scientific stuff they imagine that is created here just won't work. Like the disintegrating rays we're supposed to have—they wouldn't hurt a fly! And our wonderful space-ships, which are so impractical that the man doesn't live who could get one off the ground."

Lester had an inspiration. "Then the reason that you all speak English is because—"

Agan made an affirmative gesture. "Yes, because in the stories we all spoke English. It's the only language we know."

"Except for the six-eyed men," put in Ard Vark.

"That's right," admitted the octopoid. He told Lester, "There seems to have been one Earth author who wanted to be realistic. Instead of having his Mar-

tians, who were six-eyed yellow men, speak English, he had them say stuff like '*Quabo ump goo-hoo*,' and gibberish like that which was supposed to be a language. So now all those poor yellow devils go around here, not knowing any English, and babbling stuff like '*Quabo ump*,' at each other. They don't know what it means and nobody else does."

Ard Vark shifted impatiently. "This isn't getting us anywhere, Agan. The question is, what are we going to do with these two Earthmen? How are we going to execute them? It ought to be something original and good."

Zing Zau, one of the other bug-eyed red men, advanced a suggestion. "Why not turn them over to the ten-legged purple men? Those purple lads are experts at torturing—spend all their time threatening people with hideous deaths and leering fiendishly at each other. It seems their author was somewhat on the lurid side."

Lester quailed. It sounded insane to think that he might be killed by Martians created by mental force. But these creatures were as real as he was, no matter their strange origin, and they could do it.

"Why should you want to kill us?" he cried. "After all, you ought to be grateful to Earthmen. If it wasn't for us and our stories, you wouldn't have ever existed here at all."

Ard Vark uttered an angry

roar. "But why the devil did you have to make us such grotesque freaks as this? Why did you have to put bug eyes on us? How'd you like to go around with bug eyes, huh?"

"Yes, and how would you enjoy having eight tentacles instead of decent arms and legs?" Agan demanded spitefully. "Do you think it's fun to get around on tentacles? Try it and see!"

"Yes, and what about the hellish weather you've caused here?" demanded Ok Vok accusingly.

"The weather?" Lester repeated bewilderedly. "Good Lord, do you mean to say that the weather here on Mars follows the stories that are written on Earth?"

"Of course—the mental force shifts the free atoms of the air easily," declared Agan. "We never know what kind of weather to expect next."

He explained gloomily. "Most of your Earth writers seem to describe a fairly decent climate here on Mars—warm and sunny in the day and not too terrible cold at night. But now and then some writer of the type that stickles for scientific accuracy comes along, and his story makes Mars as cold as your astronomers say it ought to be. Then we nearly die from the cold!"

"And the way the canals come and go is nearly as bad," grunted Ard Vark.

"You mean there *are* canals here?" cried Hoskins.

"Sometimes there are and sometimes there aren't," de-

clared Ark Vark. "Apparently some stories have canals in them and some don't. The way they appear and disappear is upsetting."

The bug-eyed man, reciting his grievances, seemed to have worked himself into a rage.

"What about it, Agan?" he demanded fiercely. "Shall we turn these two fellows over to the purple men?"

From the crowd that pressed inside the building came an affirmative roar. Blue, green and pink Martians waved arms, feet and feelers in ferocious agreement.

"Wait!" Lester exclaimed. "Can't we talk this over? Suppose we go back to Earth and explain the situation to the people there. We could get them to standardize the stories on one kind of Martian and one kind of weather, and so on."

His proposal was flatly rejected by Ark Vark. "You'd never succeed. They'd insist on more stories about Mars and they'd insist on all kinds of new Martians and monsters and such in every story."

Ok Vok was glowering at the two Earthmen. "It's too bad you're not two of the fellows who wrote those cursed stories. I'd like to get hold of the chap who gave me my name. I'd Ok Vok him!"

A voice from the crowd yelled, "Here come the purple men now!"

Lester and Hoskins recoiled

from the hideous spectacle of the group of creatures who came eagerly shuffling into the hall.

These were purple-skinned men with ten limbs along their bodies in centipede fashion, which served either as arms or legs. From their conical heads glared one enormous saucer-like eye. They held various metal knives, scalpels and pincers that looked ominous to the eyes of the two scared Earthmen.

"Let's have them!" hissed the leader of the purple men, fixing a hungry eye on Lester and Hoskins. "Boy, will we torture them! It's the first real chance we've had to show what we can do."

Lester was appalled. "Good Lord, why should you want to torture us?" he exclaimed to the hideous creature.

The purple leader shrugged ten shoulders. "That's the kind of Martians we are, fellow. It's not our fault—the chap that wrote us described us as loving to torture any Earthmen or women who happened to fall into our grasp."

He asked almost wistfully, "You haven't got a beautiful blonde daughter of an Earth scientist with you, have you? No? That's too bad—we could really show some fancy tortures on a beautiful blonde."

The purple creatures shuffled forward toward Lester and Hoskins.

"It can't be real!" gasped Hoskins. "I tell you, we're dreaming—"

The five pairs of hands that

gripped him were no dream. They both were being hauled out toward the shouting crowd—

"Wait a minute!" shouted a piping voice from behind them. It came from Agan.

The octopoid super-scientific Martian was rising from his seat. There was an awkward delay while he untwisted three of his tentacles that had got tangled together.

"Cursed tentacles are always tripping me up," he muttered vexedly. He came wobbling on the queer limbs toward the purple men who held Lester and Hoskins.

"I've got an idea about these Earthmen," he declared loudly. "Maybe we can use them to stop this Earth interference with our world, once and for all."

Every Martian face in the crowd turned eagerly toward the octopoid.

"What's your idea, Agan?" demanded Ard Vark.

Agan's piping voice came louder. "As you no doubt remember, the hypnoid stasis of the neuron patterns of the brain can be scanned by an extra-electromagnetic beam which—"

"Come off it!" said Ard Vark impatiently. "What do you mean—as we no doubt remember?" How can we remember it when we never knew it? You know we don't know any real science."

"You might have given me a chance to give the scientific explanation of my idea," Agan said injuredly to the bug-eyed man.

"Anyway, this is the gist of it. We Supers have a way of learning everything in a man's mind, by scanning it in a hypnotic state. We could use it on these two men. They're obviously scientists with considerable knowledge of Earth. We could glean information about Earth from their minds, which we've never been able to obtain before."

"What good would that do us?" Ard Vark demanded rudely.

"That," retorted Agan, "is my idea. If we Supers knew more data on Earth conditions, we should be able to devise a machine that will stop the flow of mental force-lines from Earth toward Mars. That would halt the affecting of Mars conditions by Earth minds."

There was a pause while the crowd considered this. The purple man who held Lester hissed a hopeful question.

"Then after that, we could torture them?" he asked.

Lester saw a faint chance. "We won't let you do it!" he told Agan loudly. "We'll resist the hypnosis and wreck your chances, unless you agree to set us free and let us return to Earth afterward."

A cry of dissent broke out from the weird Martian throng. "Don't let them go! This is our chance to get back at the Earthmen!"

But Agan reasoned earnestly with the crowd. "What if we do let them go? Isn't it better to do that than to suffer forever from interference by the cursed Earth

writers and their stories? Do you want new Martians of all shapes appearing here perpetually? Do you want the weather to keep changing the way it does? Here's our chance to stop all that for good."

His reasoning won them over. Reluctantly, they consented, though the purple men held out desperately for torture.

"Cooperate with us, and you'll be allowed to return to your rocket," Agan assured Lester and Hoskins. "All you have to do is step under that big machine over there and make your minds submissive."

"Come on, Hoskins," muttered Lester. "It's our only chance to get away from this crazy planet."

Gingerly, they moved under the machine. From its broad lens, a flood of blue light streamed down over them. Lester felt his brain darken as the force tingled through it. He lost consciousness.

When he awoke, he found himself and Hoskins staggering under the machine. But the force had been turned off.

Agan and the other octopus super-scientists were brandishing a pad of thin metal leaves covered with writing, to the weird crowd.

"I've got it all—the experiment was a complete success!" Agan cried exultantly.

"You got enough data from our minds to enable you to stop the flow of mental force-lines

from Earth to Mars?" Hoskins stammered.

There was a triumphant gleam in Agan's huge eyes. "I can do *more* than halt those lines of force, now."

"Then we can go?" Lester pressed tensely. "You promised we could."

"Yes, you can return to your rocket and go back to Earth," Agan declared.

Ard Vark added sourly to the two Earthmen, "And don't ever come back here to Mars, if you know what's good for you."

The ten-legged purple leader made a frenzied appeal. "Are you going to let them walk out of here without torturing them at all?" There were tears in his single big eye. "How are we going to live up to our fiendish natures when we never get a chance to torture anybody? How would you like it?"

"He's right—we're letting slip the only chance we'll ever have to revenge ourselves on the Earthmen for all they've done to Mars," muttered Ok Vok angrily.

"We've given our promise and must let them go," Agan declared firmly. The gleam came back into his eyes. "But never fear, we'll yet have revenge on the Earthmen for all they've done to us."

A path was cleared through the crowd. Ark Vark pointed along it. "Get going while you can!" he snapped to Lester and Hoskins.

The two Earthmen stumbled

out through the crowd of glaring faces, expecting each moment to be seized. They broke into a breathless run through the weirdly variegated sections of the fantastic city.

Not even when they had left the city behind and were stumbling across the sunlit red sand did they slacken their pace. Not until they had reached the metal bulk of the rocket and had tumbled inside and slammed its heavy door.

"For the love of Heaven, let's get away quick!" gulped Hoskins, starting the cyclotrons. "I never thought they'd let us go, really."

"Neither did I," admitted Lester. He frowned. "I still don't feel safe. There was a look of triumph about Agan that I didn't like, when he spoke about future revenge on Earthmen—"

He was interrupted by the blast of keel rockets as the craft lurched skyward. Crushing them deep into the recoil chairs, it roared up into the brassy sky and headed for clear space and Earth. They were on their way back.

By the time, two weeks later, that the rocket was roaring in toward Earth, both men had somewhat recovered from the shock of their amazing experience. And they were debating how much of it they should tell.

"They'll never believe us!" Hoskins argued strenuously. "If we try to tell them that the mental force of thousands of readers

actually created bug-eyed men and other monsters on Mars, they'll ridicule us."

"Maybe you're right," Lester admitted. "Maybe we'd better say nothing about it."

The rocket dropped toward New York. It was their plan to land in Central Park, to electrify the metropolis and the world by their dramatic return.

But when the craft finally came to rest in the park, the two returned explorers were met by no cheering throng. They stepped out into the sunlight and stared bewilderedly at nearby Fifth Avenue.

A crazy uproar of excitement seemed sweeping the street. Crowds of citizens were rushing along it in panic flight. Then Lester and Hoskins gasped as they saw the creatures from which the horrified crowd fled.

They were a score of men. They looked like Earthmen in many ways and wore Earth clothing. But they had four arms instead of two. And they had enormous, bulging eyes like the eyes of insects.

Lester stopped a fleeing citizen and pointed wildly at the weird figures from which the crowd fled.

"Where in Heaven's name did they come from?" he cried horrifiedly.

The panicky citizen shook his head wildly. "Nobody knows! They and a lot of other monstrous people as hideous as they have been appearing all over the
(Concluded on page 83)

SOLANDER'S RADIO TOMB

By ELLIS PARKER BUTLER

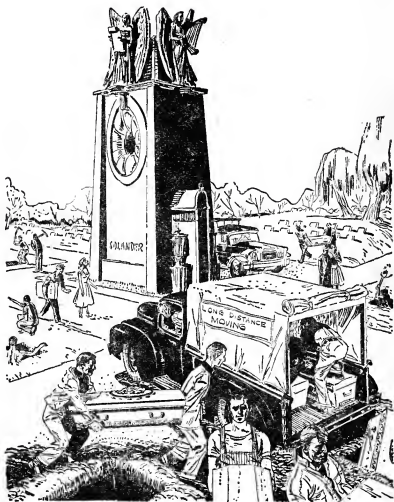
"Pigs Is Pigs" Butler quite surpasses himself in this story. The intricacies in radio are so great, and the changes occur so quickly that no one can afford to make a will wherein a radio provision figures. Once we thought of having a radio loud speaker installed in our coffin to keep us company and make it less lonesome. After reading this story we quickly changed our mind. The possibilities are too various.

I FIRST met Mr. Remington Solander shortly after I installed my first radio set. I was going in to New York on the 8:15 A.M. train and was sitting with my friend Murchison and, as a matter of course, we were talking radio. I had just told Murchison that he was a lunkheaded noodle and that for two cents I would poke him in the jaw, and that even a pin-headed idiot ought to know that a tube set was better than a crystal set. To this Murchison had replied that that settled it. He said he had always known I was a moron, and now he was sure of it.

"If you had enough brains to fill a hazelnut shell," he said,

"you wouldn't talk that way. Anybody but a half-baked lunatic would know that what a man wants in radio is clear, sharp reception and that's what a crystal gives you. You're one of these half-wits that think they're classy if they can hear some two-cent station five hundred miles away utter a few faint squeaks. Shut up! I don't want to talk to you. I don't want to listen to you. Go and sit somewhere else."

Of course, this was what was to be expected of Murchison. And if I did let out a few laps of anger, I feel I was entirely justified. Radio fans are **always** disputing over the relative merits of crystal and tube sets, but



Outraged citizens were removing their dead.

I knew I was right. I was just trying to decide whether to choke Murchison with my bare hand and throw his lifeless body out of the car window, or tell him a few things I had been wanting to say ever since he began knocking my tube set, when this Remington Solander, who was sitting behind us, leaned forward and tapped me on the shoulder. I turned quickly and saw his long sheeplike face close to mine. He was chewing cardamon seed and breathing the odor into my face.

"My friend," he said, "come back and sit with me; I want to ask you a few questions about radio."

Well, I couldn't resist that, could I? No radio fan could. I did not care much for the looks of this Remington Solander man, but for a few weeks my friends had seemed to be steering away from me when I drew near, although I am sure I never said anything to bore them. All I ever talked about was my radio set and some new hook-ups I was trying, but I had noticed that men who formerly had seemed to be fond of my company now gave startled looks when I neared them. Some even climbed over the nearest fence and ran madly across vacant lots, looking over their shoulders with frightened glances as they ran. For a week I had not been able to get any man of my acquaintance to listen to one word from me, except Murchison, and he is an utter idiot, as I think I have made

clear. So I left Murchison and sat with Remington Solander.

In one way I was proud to be invited to sit with Remington Solander, because he was far and away the richest man in our town. When he died, his estate proved to amount to three million dollars. I had seen him often, and I knew who he was, but he was a stand-offish old fellow and did not mix, so I had never met him. He was a tall man and thin, somewhat flabby and he was pale in an unhealthy sort of way. But, after all, he was a millionaire and a member of one of the "old families" of Westcote, so I took the seat alongside of him with considerable satisfaction.

"I gather," he said as soon as I was seated, "that you are interested in radio."

I told him I was.

"And I'm just building a new set, using a new hook-up that I heard of a week ago," I said. "I think it is going to be a wonder. Now, here is the idea: instead of using a grid——"

"Yes, yes!" the old aristocrat said hastily. "But never mind that now. I know very little of such things. I have an electrician employed by the year to care for my radio set and I leave all such things to him. You are a lawyer, are you not?"

I told him I was.

"And you are chairman of the trustees of the Westcote Cemetery, are you not?" he asked.

I told him I was that also.

And I may say that the Westcote Cemetery Association is one of the rightest and tightest little corporations in existence. It has been in existence since 1808 and has been exceedingly profitable to those fortunate enough to hold its stock. I inherited the small block I own from my grandfather. Recently we trustees had bought sixty additional acres adjoining the old cemetery and had added them to it, and we were about ready to put the new lots on the market. At \$300 apiece there promised to be a tremendous profit in the thing, for our cemetery was a fashionable place to be buried in and the demand for the lots in the new addition promised to be enormous.

"You have not known it," said Remington Solander in his slow drawl, which had the effect of letting his words slide out of his mouth and drip down his long chin like cold molasses, "but I have been making inquiries about you, and I have been meaning to speak to you. I am drawing up a new last will and testament, and I want you to draw up one of the clauses for me without delay."

"Why, certainly, Mr. Solander," I said with increased pride. "I'll be glad to be of service to you."

"I am choosing you for the work," Remington Solander said, "because you know and love radio as I do, and because you are a trustee of the cemetery as-

sociation. Are you a religious man?"

"Well," I said, a little uneasily, "some. Some, but not much."

"No matter," said Mr. Solander, placing a hand on my arm. "I am. I have always been. From my earliest youth my mind has been on serious things. As a matter of fact, sir, I have compiled a manuscript collection of religious quotations, hymns, sermons and uplifting thoughts which now fill fourteen volumes, all in my own handwriting. Fortunately, I inherited money, and this collection is my gift to the world."

"And a noble one, I'm sure," I said.

"Most noble," said Mr. Solander. "But, sir, I have not confined my activities to the study chair. I have kept my eye on the progress of the world. And it seems to me that radio, this new and wonderful invention, is the greatest discovery of all ages and imperishable. But, sir, it is being twisted to cheap uses. Jazz! Cheap songs! Worldly words and music! That I mean to remedy."

"Well," I said, "it might be done. Of course, people like what they like."

"Some nobler souls like better things," said Remington Solander solemnly. "Some more worthy men and women will welcome nobler radio broadcasting. In my will I am putting aside one million dollars to establish and maintain a broadcasting station that will broad-

cast only my fourteen volumes of hymns and uplifting material. Every day this matter will go forth—sermons, lectures on prohibition, noble thoughts and religious poems."

I assured him that some people might be glad to get that—that a lot of people might, in fact, and that I could write that into his will without any trouble at all.

"Ah!" said Remington Solander. "But that is already in my will. What I want you to write for my will, is another clause. I mean to build, in your cemetery, a high-lass and imperishable granite tomb for myself. I mean to place it on that knoll—that high knoll—the highest spot in your cemetery. What I want you to write into my will is a clause providing for the perpetual care and maintenance of my tomb. I want to set aside five hundred thousand dollars for that purpose."

"Well," I said to the sheep-faced millionaire, "I can do that, too."

"Yes," he agreed. "And I want to give my family and relations the remaining million and a half dollars, provided," he said, accenting the 'provided,' "they carry out faithfully the provisions of the clause providing for the perpetual care and maintenance of my tomb. If they don't care and maintain," he said, giving me a hard look, "that million and a half is to go to the Home for Flea-Bitten Dogs."

"They'll care and maintain, all right!" I laughed.

"I think so," said Remington Solander gravely. "I do think so, indeed! And now, sir, we come to the important part. You, as I know, are a trustee of the cemetery."

"Yes," I said, "I am."

"For drawing this clause of my will, if you can draw it," said Remington Solander, looking me full in the eye with both his own, which were like the eyes of a salt mackerel, "I shall pay you five thousand dollars."

Well, I almost gasped. It was a big lot of money for drawing one clause of a will, and I began to smell a rat right there. But, I may say, the proposition Remington Solander made to me was one I was able, after quite a little talk with my fellow trustees of the cemetery, to carry out. What Remington Solander wanted was to be permitted to put a radio loud-speaking outfit in his granite tomb—a radio loud-speaking outfit permanently set at 327 meters wave-length, which was to be the wave-length of his endowed broadcasting station. I don't know how Remington Solander first got his remarkable idea, but just about that time an undertaker in New York had rigged up a hearse with a phonograph so that the hearse would loud-speak suitable hymns on the way to the cemetery, and that may have suggested the loud-speaking tomb to Remington Solander, but it is not important where he got the

idea. He had it, and he was set on having it carried out.

"Think," he said, "of the uplifting effect of it! On the highest spot in the cemetery will stand my noble tomb, loud-speaking in all directions the solemn and holy words and music I have collected in my fourteen volumes. All who enter the cemetery will hear; all will be ennobled and uplifted."

That was so, too. I saw that at once. I said so. So Remington Solander went on to explain that the income from the five hundred thousand dollars would be set aside to keep "A" batteries and "B" batteries supplied, to keep the outfit in repair, and so on. So I tackled the job rather enthusiastically. I don't say that the five thousand dollar fee did not interest me, but I did think Remington Solander had a grand idea. It would make our cemetery stand out. People would come from everywhere to see and listen. The lots in the new addition would sell like hot cakes.

But I did have a little trouble with the other trustees. They balked when I explained that Remington Solander wanted the sole radio loud-speaking rights of our cemetery, but some one finally suggested that if Remington Solander put up a new and artistic iron fence around the whole cemetery it might be all right. They made him submit his fourteen volumes so they could see what sort of matter he meant to broadcast from his

high-class station, and they agreed it was solemn enough; it was all solemn and sad and gloomy, just the stuff for a cemetery. So when Remington Solander agreed to build the new iron fence they made a formal contract with him, and I drew up the clause for the will, and he bought six lots on top of the high knoll and began erecting his marble mausoleum.

For eight months or so Remington Solander was busier than he had ever been in his life. He superintended the building of the tomb and he had on hand the job of getting his endowed radio station going—it was given the letters WZZZ—and hiring artists to sing and play and speechify his fourteen volumes of gloom and uplift at 327 meters, and it was too much for the old codger. The very night the test of the WZZZ outfit was made he passed away and was no more on earth.

His funeral was one of the biggest we ever had in Westcote. I should judge that five thousand people attended his remains to the cemetery, for it had become widely known that the first WZZZ program would be received and loud-spoken from Remington Solander's tomb that afternoon, the first selection on the program—his favorite hymn—beginning as the funeral cortege left the church and the program continuing until dark.

I'll say it was one of the most affecting occasions I have ever

witnessed. As the body was being carried into the tomb the loud speaker gave us a sermon by Rev. Peter L. Ruggus, full of sob stuff, and every one of the five thousand present wept. And when the funeral was really finished, over two thousand remained to hear the rest of the program, which consisted of hymns, missionary reports, static and recitations of religious poems. We increased the price of the lots in the new addition one hundred dollars per lot immediately, and we sold four lots that afternoon and two the next morning. The big metropolitan newspapers all gave the Westcote Cemetery full page illustrated articles the next Sunday, and we received during the next week over three hundred letters, mostly from ministers, praising what we had done.

But that was not the best of it. Requests for lots began to come in by mail. Not only people in Westcote wrote for prices, but people away over in New Jersey and up in Westchester Country, and even from as far away as Poughkeepsie and Delaware. We had twice as many requests for lots as there were lots to sell, and we decided we would have an auction and let them go to the highest bidders. You see Remington Solander's Talking Tomb was becoming nationally famous. We began to negotiate with the owners of six farms adjacent to our cemetery; we figured on buying them and mak-

ing more new additions to the cemetery. And then we found we could not use three of the farms.

The reason was that the loud speaker in Remington Solander's tomb would not carry that far; it was not strong enough. So we went to the executors of his estate and ran up against another snag—nothing in the radio outfit in the tomb could be altered in any way whatever. That was in the will. The same loud speaker had to be maintained, the same wave-length had to be kept, the same makes of batteries had to be used, the same style of tubes had to be used. Remington Solander had thought of all that. So we decided to let well enough alone—it was all we could do anyway. We bought the farms that were reached by the loud speaker and had them surveyed and laid out in lots—and then the thing happened!

Yes, sir, I'll sell my cemetery stock for two cents on the dollar, if anybody will bid that much for it. For what do you think happened? Along came the Government of the United States, regulating this radio thing, and assigned new wave-lengths to all the broadcasting stations. It gave Remington Solander's endowed broadcasting station WZZZ an 855-meter wave-length, and it gave that station at Dodwood—station PKX—the 327-meter wave-length, and the next day poor old Remington Solander's tomb

poured fourth "Yes, We Ain't Got No Bananas" and the "Hot Dog" jazz and "If You Don't See Mama Every Night, You Can't See Mama At All," and Hink Tubbs in his funny stories, like "Well, one day an Irishman and a Swede were walking down Broadway and they see a flapper coming towards them. And she had on one of them short skirts they was wearing, see? So Mike he says 'Gee be jabbers, Ole, I see a peach.' So the Swede he says lookin' at the silk stockings, 'Mebby you ban see a peach, Mike, but I ban see one mighty nice pair.' Well, the other day I went to see my mother-in-law—"

You know the sort of program. I don't say that the people who like them are not entitled to them, but I do say they are not the sort of programs to loud-speak from a tomb in a cemetery. I expect old Remington Solander turned clear over in his tomb when those programs began to come through. I know our board

of trustees went right up in the air, but there was not a thing we could do about it. The newspapers gave us double pages the next Sunday—"Remington Solander's Jazz Tomb" and "Westcote's Two-Step Cemetery." And within a week the inmates of our cemetery began to move out. Friends of people who had been buried over a hundred years came and moved them to other cemeteries and took the headstones and monuments with them, and in a month our cemetery looked like one of those Great War battlefields—like a lot of shell-holes. Not a man, woman or child was left in the place—except Remington Solander in his granite tomb on top of the high knoll. What we've got on our hands is a deserted cemetery.

They all blame me, but I can't do anything about it. All I can do is groan—every morning I grab the paper and look for the PKX program and then I groan. Remington Solander is the lucky man—he's dead.

THE END

WACKY WORLD

world in the last week—we don't know how they come into being or who they are!"

Lester went pale. He grabbed Hoskins' arm. "Good Lord, this is what Agan meant when he said they'd soon have revenge on the Earthmen! The data he got from our minds—it enabled him not only to stop the flow of mental force-lines from Earth to Mars, but to reverse them, to

(Concluded from page 75)

make the currents of mental force flow now from Mars to Earth!"

Hoskins' jaw sagged. "Then these creatures were created here as a revenge by—"

"By the Martians, yes!" Lester cried. "That's their revenge on us! They're up there now, the devils, writing stories about bug-eyed Earthmen!"

THE END

THE DAY TIME STOPPED MOVING

By BRADNER BUCKNER

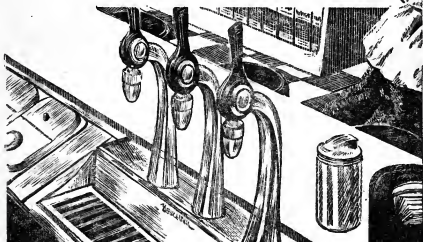
All Dave Miller wanted to do was commit suicide in peace. He tried, but the things that happened after he'd pulled the trigger were all wrong. Like everyone standing around like statues. No St. Peter, no pearly gate, no pitchforks or halos. He might just as well have saved the bullet!

DAVE MILLER would never have done it, had he been in his right mind. The Millers were not a melancholy stock, hardly the sort of people you expect to read about in the morning paper who have taken their lives the night before. But Dave

Miller was drunk—abominably, roaringly so—and the barrel of the big revolver, as he stood against the sink, made a ring of coldness against his right temple.

Dawn was beginning to stain the frosty kitchen windows. In

Amazing Stories, Oct. 1940



Dave Miller pushed with all his strength,



but the girl was as unmovable as Gibraltar.

the faint light, the letter lay a gray square against the drain-board tiles. With the melodramatic gesture of the very drunk, Miller had scrawled across the envelope:

"This is why I did it!"

He had found Helen's letter in the envelope when he staggered into their bedroom fifteen minutes ago—at a quarter after five. As had frequently happened during the past year, he'd come home from the store a little late . . . about twelve hours late, in fact. And this time Helen had done what she had long threatened to do. She had left him.

The letter was brief, containing a world of heartbreak and broken hopes.

"I don't mind having to scrimp, Dave. No woman minds that if she feels she is really helping her husband over a rough spot. When business went bad a year ago, I told you I was ready to help in any way I could. But you haven't let me. You quit fighting when things got difficult, and put in all your money and energy on liquor and horses and cards. I could stand being married to a drunkard, Dave, but not to a coward . . ."

So she was trying to show him. But Miller told himself he'd show her instead. Coward, eh? Maybe this would teach her a lesson! Hell of a lot of help she'd been! Nag at him every time he took a drink. Holler bloody murder when he put twenty-five bucks on a horse, with a chance to make five hundred.

What man wouldn't do those things?

His drug store was on the skids. Could he be blamed for drinking a little too much, if alcohol dissolved the morbid vapors of his mind?

Miller stiffened angrily, and tightened his finger on the trigger. But he had one moment of frank insight just before the hammer dropped and brought the world tumbling about his ears. It brought with it a realization that the whole thing was his fault. Helen was right—he was a coward. There was a poignant ache in his heart. She'd been as loyal as they came, he knew that.

He could have spent his nights thinking up new business tricks, instead of swilling whiskey. Could have gone out of his way to be pleasant to customers, not snap at them when he had a terrific hangover. And even Miller knew nobody ever made any money on the horses—at least, not when he needed it. But horses and whiskey and business had become tragically confused in his mind; so here he was, full of liquor and madness, with a gun to his head.

Then again anger swept his mind clean of reason, and he threw his chin up and gripped the gun tight.

"Run out on me, will she!" he muttered thickly. "Well—this'll show her!"

In the next moment the hammer fell . . . and Dave Miller had "shown her."

Miller opened his eyes with a start. As plain as black on white, he'd heard a bell ring—the most familiar sound in the world, too. It was the unmistakable tinkle of his cash register.

"Now, how in hell—" The thought began in his mind; and then he saw where he was.

The cash register was right in front of him! It was open, and on the marble slab lay a customer's five-spot. Miller's glance strayed up and around him.

He was behind the drug counter, all right. There were a man and a girl sipping cokes at the fountain, to his right; the magazine racks by the open door; the tobacco counter across from the fountain. And right before him was a customer.

Good Lord! he thought. Was all this a—a dream?

Sweat oozed out on his clammy forehead. That stuff of Herman's that he had drunk during the game—it had had a rank taste, but he wouldn't have thought anything short of marijuana could produce such hallucinations as he had just had. Wild conjectures came boiling up from the bottom of Miller's being.

How did he get behind the counter? Who was the woman he was waiting on? What—

The woman's curious stare was what jarred him completely into the present. Get rid of her! was his one thought. Then sit down behind the scenes and try to figure it all out.

His hand poised over the cash

drawer. Then he remembered he didn't know how much he was to take out of the five. Avoiding the woman's glance, he muttered:

"Let's see, now, that was—uh—how much did I say?"

The woman made no answer. Miller cleared his throat, said uncertainly:

"I beg your pardon, ma'am—did I say—seventy-five cents?"

It was just a feeler, but the woman didn't even answer to that. And it was right then that Dave Miller noticed the deep silence that brooded in the store.

Slowly his head came up and he looked straight into the woman's eyes. She returned him a cool, half-smiling glance. But her eyes neither blinked nor moved. Her features were frozen. Lips parted, teeth showing a little, the tip of her tongue was between her even white teeth as though she had started to say "this" and stopped with the syllable unspoken.

Muscles began to rise behind Miller's ears. He could feel his hair stiffen like filings drawn to a magnet. His glance struggled to the soda fountain. What he saw there shook him to the core of his being.

The girl who was drinking a coke had the glass to her lips, but apparently she wasn't sipping the liquid. Her boy friend's glass was on the counter. He had drawn on a cigarette and exhaled the gray smoke. That smoke hung in the air like a large, elongated balloon with the small

end disappearing between his lips. While Miller stared, the smoke did not stir in the slightest.

There was something unholy, something supernatural, about this scene!

With apprehension rippling down his spine, Dave Miller reached across the cash register and touched the woman on the cheek. The flesh was warm, but as hard as flint. Tentatively, the young druggist pushed harder; finally, shoved with all his might. For all the result, the woman might have been a two-ton bronze statue. She neither budged nor changed expression.

Panic seized Miller. His voice hit a high hysterical tenor as he called to his soda-jerker.

"Pete! Pete!" he shouted. "What in God's name is wrong here!"

The blond youngster, with a towel wadded in a glass, did not stir. Miller rushed from the back of the store, seized the boy by the shoulders, tried to shake him. But Pete was rooted to the spot.

Miller knew, now, that what was wrong was something greater than a hallucination or a hangover. He was in some kind of trap. His first thought was to rush home and see if Helen was there. There was a great sense of relief when he thought of her. Helen, with her grave blue eyes and understanding manner, would listen to him and know what was the matter.

He left the haunted drug

store at a run, darted around the corner and up the street to his car. But, though he had not locked the car, the door resisted his twisting grasp. Shaking, pounding, swearing, Miller wrestled with each of the doors.

Abruptly he stiffened, as a horrible thought leaped into his being. His gaze left the car and wandered up the street. Past the intersection, past the one beyond that, on up the thoroughfare until the gray haze of the city dimmed everything. And as far as Dave Miller could see, there was no trace of motion.

Cars were poised in the street, some passing other machines, some turning corners. A street car stood at a safety zone; a man who had leaped from the bottom step hung in space a foot above the pavement. Pedestrians paused with one foot up. A bird hovered above a telephone pole, its wings glued to the blue vault of the sky.

With a choked sound, Miller began to run. He did not slacken his pace for fifteen minutes, until around him were the familiar, reassuring trees and shrub-bordered houses of his own street. But yet how strange to him!

The season was autumn, and the air filled with brown and golden leaves that tossed on a frozen wind. Miller ran by two boys lying on a lawn, petrified into a modern counterpart of the sculptor's "The Wrestlers." The sweetish tang of burning leaves brought a thrill of terror to him;

for, looking down an alley from whence the smoke drifted, he saw a man tending a fire whose leaping flames were red tongues that did not move.

Sobbing with relief, the young druggist darted up his own walk. He tried the front door, found it locked, and jammed a thumb against the doorbell. But of course the little metal button was as immovable as a mountain. So in the end, after convincing himself that the key could not be inserted into the lock, he sprang toward the back.

The screen door was not latched, but it might as well have been the steel door of a bank vault. Miller began to pound on it, shouting:

"Helen! Helen, are you in there? My God, dear, there's something wrong! You've got to—"

The silence that flowed in again when his voice choked off was the dead stillness of the tomb. He could hear his voice rustling through the empty rooms, and at last it came back to him like a taunt: "*Helen! Helen!*"

CHAPTER II

Time Stands Still

FOR Dave Miller, the world was now a planet of death on which he alone lived and moved and spoke. Staggered, utterly beaten, he made no attempt to break into his home. But he did stumble around to the kitch-

en window and try to peer in, anxious to see if there was a body on the floor. The room was in semi-darkness, however, and his straining eyes made out nothing.

He returned to the front of the house, shambling like a somnambulist. Seated on the porch steps, head in hands, he slipped into a hell of regrets. He knew now that his suicide had been no hallucination. He was dead, all right; and this must be hell or purgatory.

Bitterly he cursed his drinking, that had led him to such a mad thing as suicide. Suicide! He—Dave Miller—a coward who had taken his own life! Miller's whole being crawled with revulsion. If he just had the last year to live over again, he thought fervently.

And yet, through it all, some inner strain kept trying to tell him he was not dead. This was his own world, all right, and essentially unchanged. What had happened to it was beyond the pale of mere guesswork. But this one thing began to be clear: This was a world in which change or motion of any kind was a foreigner.

Fire would not burn and smoke did not rise. Doors would not open, liquids were solid. Miller's stubbing toe could not move a pebble, and a blade of grass easily supported his weight without bending. In other words, Miller began to understand, change had been stopped as surely as if

a master hand had put a finger on the world's balance wheel.

Miller's ramblings were terminated by the consciousness that he had an acute headache. His mouth tasted, as Herman used to say after a big night, as if an army had camped in it. Coffee and a bromo were what he needed.

But it was a great awakening to him when he found a restaurant and learned that he could neither drink the coffee nor get the lid off the bromo bottle. Fragrant coffee-steam hung over the glass percolator, but even this steam was as a brick wall to his probing touch. Miller started gloomily to thread his way through the waiters in back of the counter again.

Moments later he stood in the street and there were tears swimming in his eyes.

"Helen!" His voice was a pleading whisper. "Helen, honey, where are you?"

There was no answer but the pitiful palpitation of utter silence. And then, there was movement at Dave Miller's right!

Something shot from between the parked cars and crashed against him; something brown and hairy and soft. It knocked him down. Before he could get his breath, a red, wet tongue was licking his face and hands, and he was looking up into the face of a police dog!

Frantic with joy at seeing another in this city of death, the dog would scarcely let Miller rise. It stood up to plant big

paws on his shoulders and try to lick his face. Miller laughed out loud, a laugh with a throaty catch in it.

"Where'd you come from, boy?" he asked. "Won't they talk to you, either? What's your name, boy?"

There was a heavy, brass-studded collar about the animal's neck, and Dave Miller read on its little nameplate: "Major."

"Well, Major, at least we've got company now," was Miller's sigh of relief.

For a long time he was too busy with the dog to bother about the sobbing noises. Apparently the dog failed to hear them, for he gave no sign. Miller scratched him behind the ear.

"What shall we do now, Major? Walk? Maybe your nose can smell out another friend for us."

They had gone hardly two blocks when it came to him that there was a more useful way of spending their time. The library! Half convinced that the whole trouble stemmed from his suicide shot in the head—which was conspicuously absent now—he decided that a perusal of the surgery books in the public library might yield something he could use.

That way they bent their steps, and were soon mounting the broad cement stairs of the building. As they went beneath the brass turnstile, the librarian caught Miller's attention with a smiling glance. He smiled back.

"I'm trying to find something

on brain surgery," he explained. "I—"

With a shock, then, he realized he had been talking to himself.

In the next instant, Dave Miller whirled. A voice from the bookcases chuckled:

"If you find anything, I wish you'd let me know. I'm stumped myself!"

From a corner of the room came an elderly, half-bald man with tangled gray brows and a rueful smile. A pencil was balanced over his ear, and a notebook was clutched in his hand.

"You, too!" he said. "I had hoped I was the only one—"

Miller went forward hurriedly to grip his hand.

"I'm afraid I'm not so unselfish," he admitted. "I've been hoping for two hours that I'd run into some other poor soul."

"Quite understandable," the stranger murmured sympathetically. "But in my case it is different. You see—I am responsible for this whole tragic business!"

"You!" Dave Miller gulped the word. "I—I thought—"

The man wagged his head, staring at his note pad, which was littered with jumbled calculations. Miller had a chance to study him. He was tall, heavily built, with wide, sturdy shoulders despite his sixty years. Oddly, he wore a gray-green smock. His eyes, narrowed and intent, looked gimlet-sharp beneath those toothbrush brows of his, as he stared at the pad.

"There's the trouble, right

there," he muttered. "I provided only three stages of amplification, whereas four would have been barely enough. No wonder the phase didn't carry through!"

"I guess I don't follow you," Miller faltered. "You mean—something you did—"

"I should think it was something I did!" The baldish stranger scratched his head with the tip of his pencil. "I'm John Erickson—you know, the Wanamaker Institute."

Miller said: "Oh!" in an understanding voice. Erickson was head of Wanamaker Institute, first laboratory of them all when it came to exploding atoms and blazing trails into the wildernesses of science.

Erickson's piercing eyes were suddenly boring into the younger man.

"You've been sick, haven't you?" he demanded.

"Well—no—not really sick." The druggist colored. "I'll have to admit to being drunk a few hours ago, though."

"Drunk—" Erickson stuck his tongue in his cheek, shook his head, scowled. "No, that would hardly do it. There must have been something else. The impulsor isn't *that* powerful. I can understand about the dog, poor fellow. He must have been run over, and I caught him just at the instant of passing from life to death."

"Oh!" Dave Miller lifted his head, knowing now what Erickson was driving at. "Well, I may

as well be frank. I'm—I committed suicide. That's how drunk I was. There hasn't been a suicide in the Miller family in centuries. It took a skinful of liquor to set the precedent."

Erickson nodded wisely. "Perhaps we will find the precedent hasn't really been set! But no matter—" His lifted hand stopped Miller's eager, wondering exclamation. "The point is, young man, we three are in a tough spot, and it's up to us to get out of it. And not only we, but heaven knows how many others the world over!"

"Would you—maybe you can explain to my lay mind what's happened," Miller suggested.

"Of course. Forgive me. You see, Mr.—"

"Miller. Dave Miller."

"Dave it is. I have a feeling we're going to be pretty well acquainted before this is over. You see, Dave, I'm a nut on so-called 'time theories.' I've seen time compared to everything from an entity to a long, pink worm. But I disagree with them all, because they postulate the idea that time is constantly being manufactured. Such reasoning is fantastic!

"Time exists. Not as an ever-growing chain of links, because such a chain would have to have a tail end, if it has a front end; and who can imagine the period when time did not exist? So I think time is like a circular train-track. Unending. We who live and die merely travel around on it. The future exists simul-

taneously with the past, for one instant when they meet."

Miller's brain was humming. Erickson shot the words at him staccato-fashion, as if they were things known from Great Primer days. The young druggist scratched his head.

"You've got me licked," he admitted. "I'm a stranger here, myself."

"Naturally you can't be expected to understand things I've been all my life puzzling about. Simplest way I can explain it is that we are on a train following this immense circular railway.

"When the train reaches the point where it started, it is about to plunge into the past; but this is impossible, because the point where it started is simply the caboose of the train! And that point is always ahead—and behind—the time-train.

"Now, my idea was that with the proper stimulus a man could be thrust across the diameter of this circular railway to a point in his past. Because of the nature of time, he could neither go ahead of the train to meet the future nor could he stand still and let the caboose catch up with him. But—he could detour across the circle and land farther back on the train! And that, my dear Dave, is what you and I and Major have done—almost."

"Almost?" Miller said hoarsely.

Erickson pursed his lips. "We are somewhere partway across the space between present and

past. We are living in an instant that can move neither forward nor back. You and I, Dave, and Major—and the Lord knows how many others the world over—have been thrust by my time impulsor onto a timeless beach of eternity. We have been caught in time's backwash. Castaways, you might say."

An objection clamored for attention in Miller's mind.

"But if this is so, where are the rest of them? Where is my wife?"

"They are right here," Erickson explained. "No doubt you could see your wife if you could find her. But we see them as statues, because, for us, time no longer exists. But there was something I did not count on. I did not know that it would be possible to live in one small instant of time, as we are doing. And I did not know that only those who are hovering between life and death can deviate from the normal process of time!"

"You mean—we're dead!" Miller's voice was a bitter monotone.

"Obviously not. We're talking and moving, aren't we? But—we are on the fence. When I gave my impulsor the jolt of high power, it went wrong and I think something must have happened to me. At the same instant, you had shot yourself.

"Perhaps, Dave, you are dying. The only way for us to find out is to try to get the machine working and topple ourselves one way or the other. If we fall back,

we will all live. If we fall into the present—we may die."

"Either way, it's better than this!" Miller said fervently.

"I came to the library here, hoping to find out the things I must know. My own books are locked in my study. And these—they might be cemented in their places, for all their use to me. I suppose we might as well go back to the lab."

Miller nodded, murmuring: "Maybe you'll get an idea when you look at the machine again."

"Let's hope so," said Erickson grimly. "God knows I've failed so far!"

CHAPTER III

Splendid Sacrifice

IT WAS a solid hour's walk out to West Wilshire, where the laboratory was. The immense bronze and glass doors of Wanamaker Institute were closed, and so barred to the two men. But Erickson led the way down the side.

"We can get in a service door. Then we climb through transoms and ventilators until we get to my lab."

Major frisked along beside them. He was enjoying the action and the companionship. It was less of an adventure to Miller, who knew death might be ahead for the three of them.

Two workmen were moving a heavy cabinet in the side service door. To get in, they climbed up the back of the rear work-

man, walked across the cabinet, and scaled down the front of the leading man. They went up the stairs to the fifteenth floor. Here they crawled through a transom into the wing marked:

"Experimental. Enter Only By Appointment."

Major was helped through it, then they were crawling along the dark metal tunnel of an air-conditioning ventilator. It was small, and took some wriggling.

In the next room, they were confronted by a stern receptionist on whose desk was a little brass sign, reading:

"Have you an appointment?"

Miller had had his share of experience with receptionists' ways, in his days as a pharmaceutical salesman. He took the greatest pleasure now in lighting his cigarette from a match struck on the girl's nose. Then he blew the smoke in her face and hastened to crawl through the final transom.

John Erickson's laboratory was well lighted by a glass-brick wall and a huge skylight. The sun's rays glinted on the time impulsor.* The scientist explained the impulsor in concise terms. When he had finished, Dave Mil-

*Obviously this electric time impulsor is a machine in the nature of an atomic integrator. It "broadcasts" great waves of electrons which align all atomic objects in rigid suspension.

That is to say, atomic structures are literally "frozen." Living bodies are similarly affected. It is a widely held belief on the part of many eminent scientists that all matter, broken down into its elementary atomic composition, is electrical in structure.

That being so, there is no reason to suppose why Professor Erickson may not have discovered a time impulsor which, broadcasting electronic impulses, "froze" everything within its range.—Ed.

ler knew just as little as before, and the outfit still resembled three transformers in a line, of the type seen on power-poles, connected to a great bronze globe hanging from the ceiling.

"There's the monster that put us in this plight," Erickson grunted. "Too strong to be legal, too weak to do the job right. Take a good look!"

With his hands jammed in his pockets, he frowned at the complex machinery. Miller stared a few moments; then transferred his interests to other things in the room. He was immediately struck by the resemblance of a transformer in a far corner to the ones linked up with the impulsor.

"What's that?" he asked quickly. "Looks the same as the ones you used over there."

"It is."

"But— Didn't you say all you needed was another stage of power?"

"That's right."

"Maybe I'm crazy!" Miller stared from impulsor to transformer and back again. "Why don't you use it, then?"

"Using what for the connection?" Erickson's eyes gently mocked him.

"Wire, of course!"

The scientist jerked a thumb at a small bale of heavy copper wire.

"Bring it over and we'll try it."

Miller was halfway to it when he brought up short. Then a

sheepish grin spread over his features.

"I get it," he chuckled. "That bale of wire might be the Empire State Building, as far as we're concerned. Forgive my stupidity."

Erickson suddenly became serious.

"I'd like to be optimistic, Dave," he muttered, "but in all fairness to you I must tell you I see no way out of this. The machine is, of course, still working, and with that extra stage of power, the uncertainty would be over. But where, in this world of immovable things, will we find a piece of wire twenty-five feet long?"

There was a warm, moist sensation against Miller's hand, and when he looked down Major stared up at him commiseratingly. Miller scratched him behind the ear, and the dog closed his eyes, reassured and happy. The young druggist sighed, wishing there were some giant hand to scratch him behind the ear and smooth his troubles over.

"And if we don't get out," he said soberly, "we'll starve, I suppose."

"No, I don't think it will be that quick. I haven't felt any hunger. I don't expect to. After all, our bodies are still living in one instant of time, and a man can't work up a healthy appetite in one second. Of course, this elastic-second business precludes the possibility of disease.

"Our bodies must go on un-

changed. The only hope I see is—when we are on the verge of madness, suicide. That means jumping off a bridge, I suppose. Poison, guns, knives—all the usual wherewithal—are denied to us."

Black despair closed down on Dave Miller. He thrust it back, forcing a crooked grin.

"Let's make a bargain," he offered. "When we finish fooling around with this apparatus, we split up. We'll only be at each other's throat if we stick together. I'll be blaming you for my plight, and I don't want to. It's my fault as much as yours. How about it?"

John Erickson gripped his hand. "You're all right, Dave. Let me give you some advice. If ever you do get back to the present . . . keep away from liquor. Liquor and the Irish never did mix. You'll have that store on its feet again in no time."

"Thanks!" Miller said fervently. "And I think I can promise that nothing less than a whiskey antidote for snake bite will ever make me bend an elbow again!"

For the next couple of hours, despondency reigned in the laboratory. But it was soon to be deposed again by hope.

Despite all of Erickson's scientific training, it was Dave Miller himself who grasped the down-to-earth idea that started them hoping again. He was walking about the lab, jingling keys in his pocket, when suddenly he

stopped short. He jerked the ring of keys into his hand.

"Erickson!" he gasped. "We've been blind. Look at this!"

The scientist looked; but he remained puzzled.

"Well—?" he asked skeptically.

"There's our wire!" Dave Miller exclaimed. "You've got keys; I've got keys. We've got coins, knives, wristwatches. Why can't we lay them all end to end—"

Erickson's features looked as if he had been electrically shocked.

"You've hit it!" he cried. "If we've got enough!"

With one accord, they began emptying their pockets, tearing off wristwatches, searching for pencils. The finds made a little heap in the middle of the floor. Erickson let his long fingers claw through thinning hair.

"God give us enough! We'll only need the one wire. The thing is plugged in already and only the positive pole has to be connected to the globe. Come on!"

Scooping up the assortment of metal articles, they rushed across the room. With his pocket-knife, Dave Miller began breaking up the metal wrist-watch straps, opening the links out so that they could be laid end-to-end for the greatest possible length. They patiently broke the watches to pieces, and of the junk they garnered made a ragged foot and a half of "wire". Their coins stretched the line still further.

They had ten feet covered before the stuff was half used up. Their metal pencils, taken apart, gave them a good two feet. Key chains helped generously. With eighteen feet covered, their progress began to slow down.

Perspiration poured down Miller's face. Desperately, he tore off his lodge ring and cut it in two to pound it flat. From garters and suspenders they won a few inches more. And then—they stopped—feet from their goal.

Miller groaned. He tossed his pocket-knife in his hand.

"We can get a foot out of this," he estimated. "But that still leaves us 'way short."

Abruptly, Erickson snapped his fingers.

"Shoes!" he gasped. "They're full of nails. Get to work with that knife, Dave. We'll cut out every one of 'em!"

In ten minutes, the shoes were reduced to ragged piles of tattered leather. Erickson's deft fingers painstakingly placed the nails, one by one, in the line. The distance left to cover was less than six inches!

He lined up the last few nails. Then both men were sinking back on their heels, as they saw there was a gap of three inches to cover!

"Beaten!" Erickson ground out. "By three inches! Three inches from the present . . . and yet it might as well be a million miles!"

Miller's body felt as though it were in a vise. His muscles

ached with strain. So taut were his nerves that he leaped as though stung when Major nuzzled a cool nose into his hand again. Automatically, he began to stroke the dog's neck.

"Well, that licks us," he muttered. "There isn't another piece of movable metal in the world."

Major kept whimpering and pushing against him. Annoyed, the druggist shoved him away.

"Go 'way," he muttered. "I don't feel like—"

Suddenly then his eyes widened, as his touch encountered warm metal. He whirled.

"There it is!" he yelled. "The last link. *The nameplate on Major's collar!*"

In a flash, he had torn the little rectangular brass plate from the dog collar. Erickson took it from his grasp. Sweat stood shiny on his skin. He held the bit of metal over the gap between wire and pole.

"This is it!" he smiled brittlely. "We're on our way, Dave. Where, I don't know. To death, or back to life. But—we're going!"

The metal clinked into place. Live, writhing power leaped through the wire, snarling across partial breaks. The transformers began to hum. The humming grew louder. Singing softly, the bronze globe over their heads glowed green. Dave Miller felt a curious lightness. There was a snap in his brain, and Erickson, Major and the laboratory faded from his senses.

Then came an interval when

the only sound was the soft sobbing he had been hearing as if in a dream. That, and blackness that enfolded him like soft velvet. Then Miller was opening his eyes, to see the familiar walls of his own kitchen around him!

Someone cried out.

"Dave! Oh, Dave, dear!"

It was Helen's voice, and it was Helen who cradled his head in her lap and bent her face close to his.

"Oh, thank God that you're alive—!"

"Helen!" Miller murmured. "What—are—you—doing here?"

"I couldn't go through with it. I—I just couldn't leave you. I came back and—and I heard the shot and ran in. The doctor should be here. I called him five minutes ago."

"*Five minutes* . . . How long has it been since I shot myself?"

"Oh, just six or seven minutes. I called the doctor right away."

Miller took a deep breath. Then it *must* have been a dream. All that—to happen in a few minutes— It wasn't possible!

"How—how could I have botched the job" he muttered. "I wasn't drunk enough to miss myself completely."

Helen looked at the huge revolver lying in the sink.

"Oh, that old forty-five of Grandfather's! It hasn't been loaded since the Civil War. I guess the powder got damp or something. It just sort of sputtered instead of exploding properly."
(Concluded on page 105)

Vanished Civilizations



JUST OVER 75 YEARS AGO, THE FRENCH NATURALIST, MOUHOT, STUMBLED ON THE MAGNIFICENT RUINS OF ANGKOR VAT IN THE CAMBODIAN JUNGLES OF INDO-CHINA.



SEALAND, A NATION WHICH CONQUERED MIGHTY ASSYRIA, HAS NEVER BEEN FOUND, BUT DOUGHERTY PROVED ITS EXISTENCE.



EASTER ISLAND AND ITS HUGE STONE IMAGES IS MUTE EVIDENCE OF ANOTHER GREAT CIVILIZATION OF THE DIM AND MYSTERIOUS PAST.

Today's jet-propelled aircraft are flying over the jungles in which are hidden the ruins of the most mysterious cities on this earth—and a riddle that has baffled explorers and scientists since the first day men of the modern world came upon these strange ruins. Are there answers to the questions posed? Are the riddles unsolvable?



JUST a little over seventy-five years ago, a French naturalist named Mouhot set out to search the untrodden jungles of Cambodia in Indo-China for specimens of tropical life. For days and weeks he fought his weary way through forests of banyan and bamboo. As far as he knew, he was the first European to penetrate this unknown land, the first with any reason to brave the unknown and uncharted jungles beyond Pnompenh. And little Mouhot, the naturalist, was no hard-bitten explorer and adventurer, no gold-seeker. All he asked of this forbidding jungle was a few little bugs and butterflies for his collection. In-

stead, or besides, he startled the world by bringing back one of the weirdest unsolved mysteries of all time.

One evening, after endless days of monotonous jungle, he hacked through a last wall of root and creeper and green trunk and burst out into a fantastic dream world. Before him was the most magnificent city his eyes had ever beheld, a vision straight from the Arabian Nights. Here was no ancient ruin, relic of an almost forgotten past, but a perfectly preserved capitol of an unknown civilization.

Before him stood a vast temple, surrounded by a moat and a wall, with a mammoth step

pyramid in its center, from which rose five richly carved towers. Close by, near the shore of the *Tonle Sap*, or Great Lake, stood an amazing walled city, richer and vaster than Rome or Carthage or even the Athens of Pericles.

Most unbelievable to Mouhot, and to every visitor since, was the fact that both city and temple were intact. These were not ruins but the living heart of a mighty empire. Mouhot looked around him cautiously, expecting to see strange priests, smoking altar fires, the commerce and activity of a mighty metropolis. There was, and still is, about Angkor Vat and Angkor Thom the very vivid impression that the people who dwelt there have only stepped out for a short time, that they will return to their homes and temples almost immediately.

But no one did return and after a time, the wondering Mouhot returned to civilization to tell a story that branded him as the world's prize liar for years to come. What, a temple greater and more majestic than anything Greece or Rome could offer? A city vaster and richer than even those of modern Europe, completely abandoned to the eternal jungles? The story was insane.

Eventually, scientists fought their way through to Mouhot's fantastic mystery land and confirmed his stories, Angkor Vat, or the chief temple, and Angkor Thom, or grand capital, took their places well toward the head

of the world's mysteries of vanished civilizations. Today fine automobile roads carry thousands of tourists from Saigon to Angkor in a few hours. Science has read the inscriptions on the walls and columns, has recreated much of the splendor of the Khmers who built temple and city, has even located early historical reference to the mighty empire.

But not even today does science have the faintest idea of what became of one of the mightiest civilizations that ever ruled on this earth.

Since Mouhot's fantastic discovery, other great cities have been found along the tributaries of the Mekong River, evidences of a widespread commerce and culture. Science believes that the population of this mysterious race totalled at least thirty million and perhaps more. Angkor Thom, the city, was the finest metropolis in Asia, a city of tremendous wealth and culture, every bit as fantastically rich as ancient Babylon. Not since the Tower of Babel has the hand of man ever attempted anything as grandiose as the temple of Angkor Vat.

It is known that the mysterious Khmers were either Hindus or ardent followers of Hindu culture. Ancient Chinese records mention a Hindu civilization in Indo-China flourishing in 238 A.D. Much earlier, a Chinese traveler named Tcheou-Ta-Quan wrote what was believed to be a

fictional account of his adventures in a great kingdom in the Mekong Valley. Beyond those meager mentions, the world seems to have known little of a civilization actually finer and richer than any other in existence at that time. The last trace of Khmer civilization disappears from history as late as the fourteenth century.

Unlike most abandoned cities, science did not have to dig too deeply to unravel the language. The inscriptions were found to be in an alphabet allied to Sanskrit and amenable to comparatively easy deciphering.

From them science learned that Yacovarman, the King of Glory, who ruled the Khmers from 889 to 908 A.D. built the city and actually moved into it within ten years after it was started. The walls of Angkor Thom measure nearly two miles to a side and enclose, besides the city itself, another temple almost as vast as Angkor Vat itself, a mile to the south.

The temple of Angkor Vat is surrounded by a moat nearly seven hundred feet wide and three miles around. The temple itself occupies about a quarter of a mile square within a high wall. The lower galleries measure two hundred and fifty feet to a side and the facade is five times the width of famed Notre Dame in Paris.

As an example of the masterly craft of its mystery builders, the architecture of Angkor Vat shows uncanny perspective. No

one has yet been able to accurately judge its height. Tricks of perspective make its high towers look still higher. As a whole, the temple is more majestic and artistic than Egypt's pyramids or even the famed Taj Mahal.

Yet all its physical mysteries and wonders pale before the greater wonder of what became of its builders. How could a race and a culture equal to any at that time completely vanish from sight without so much as a ripple on the current of history to mark their passing?

The Khmers were obviously not wiped out by wars or floods or pestilence, as many first guessed. There have not as yet been found any human remains. The hand of a destroying conqueror has apparently never been laid on the mighty temple and city.

As far as anyone has ever been able to see, thirty million of the most highly cultured and civilized people on the face of the earth simply walked out of their homes and temples and straight off the face of the earth forever. Where did they go? No one knows. No one can even hazard a sound guess.

In every major police department today, there is a unit known as the Bureau of Missing Persons. The job of this Bureau is to find people who vanish from the sight of friends and relatives. Such Bureaus, highly specialized in their work, have been

successful in locating thousands of missing persons.

Science is literally crying for some such Bureau of Missing Civilizations that will be only one-tenth as successful in finding vanished peoples who have somehow lost themselves from the world. To catalog all the vanished races known to mankind would require many volumes.

A classic example that has intrigued anthropologists and theologians as well for centuries is the mystery of the Lost Tribes of Israel.

The Bible, which is an historical authority beyond compare, gives us an excellent account of early Jewish history and of the Twelve Tribes that made up the Hebrew nation. The wanderings and struggles of these Twelve Tribes are followed with meticulous detail. On the death of Solomon, in 975 B.C., ten of the Twelve Tribes revolted against Solomon's son and successor, Rehoboam, and formed the separate kingdom of Israel with its capital at Samaria. At the same time, the tribes of Judah and Benjamin became the kingdom of Judah, with Jerusalem as its capital.

Following the Babylonian captivity, Cyrus the Great of Persia issued an edict permitting the Jews to return to their homeland of Jerusalem and rebuild their temple. Some fifty thousand of the tribes of Judah and Benjamin did return and completed the reconstruction of

the temple in 515 B.C. At this time, the Bible and all contemporary history completely drops any mention of the other Ten Tribes. To this day, no one knows for sure what became of the Lost Tribes of Israel. Like the Khmers, they simply walked out of history and off the face of the earth.

Perhaps tied up with this mystery is a newer one, barely exposed by the diligence of the late Professor Raymond Dougherty of Yale University. Through his researches into ancient writings and inscriptions, a whole lost civilization has been discovered but not found. This land, called Sealand, is believed to have been somewhere in Arabia. Reference to Sealand in the inscriptions found in many Assyrian and Babylonian ruins show that it was a mighty nation, strong enough to face and whip mighty Assyria and to even intrude in the politics of Babylonia and Chaldea.

Yet, until Professor Dougherty began his researches, no one knew that Sealand existed. Today, archaeologists know a great deal about Sealand from the writing of its rivals. . . .

. . . except where Sealand was and what became of its civilization.

Science is still puzzled over discoveries of the graves of an unknown race in Siberia. One of the customs of this mysterious people was that of making accurate death masks of plaster,

recording the complete facial details of their dead. From these, archaeologists had no trouble in reproducing images of a beak-nosed, long-faced race with blonde or brown hair. But who these mystery peoples were, where they came from or where they vanished to, are questions no scientist dares even guess at answers for.

Right here in America, the Bureau of Missing Civilizations would find tasks waiting for its research. Early Spanish narratives, as well as others, mention a race of highly-cultured and intelligent Indians known as Yuchis. Science has found plenty of mention of this race—but not one single trace of their existence. No homes, graves, implements or weapons have ever been found that could definitely be labelled Yuchi. Yet archaeology is fairly certain the mysterious and intelligent Yuchi Indians did inhabit our southern country.

Further back, science is trying to find more information about a sensational and mysterious race that inhabited North America some 15,000 years ago. Until recently, the idea of such an Ice-Age race was considered sheer fantasy. Then researchers found unmistakable evidence of a race that existed at the same time as the mammoth, the American camel, the ancient bison and prehistoric horses. Today, there is no doubt that an intelligent and cultured race existed in that dim dawn of time but

that only enhances the mystery.

If such a race existed, they must have gotten their culture from an even earlier race for the finds show similar stone weapons scattered from one end of the country to the other. Furthermore, they must have vanished somewhere, for there is a gap in history that is apparently not bridged by the earlier culture. Perhaps the mysterious Never-never land of lost civilizations laid claim to them, as well.

Many people, including some prominent archaeologists and anthropologists, class the Inca, Chimu, Aztec and Maya civilizations, with the attendant Toltec, Mixtec and Zapotec cultures, as that of vanished civilizations. While a majority of scientists prefer to trace these incredible civilizations through to a logical end in the arrival of conquering Europeans, the theory has flaws. A great many refuse to believe that a civilization as vast and as high in scientific knowledge as that of the Incas, for example, could be completely obliterated by a little band of invading Spaniards. Or that the mighty civilization of the Maya, or True Man, could have simply wasted away to the dull-eyed, slow-brained savages who claim descendency from the ancient splendour.

To many, the culture of Inca, Aztec and Maya still exist, greater and grander than ever, in the unexplored fastnesses of Central and South America. And

if only one-tenth of the fantastic tales of hidden civilizations that constantly appear are true then some great culture does still exist, hidden from the eyes of a civilization that would spell its downfall.

Another, and equally mystifying disappearance of a cultured civilization took place in the south Pacific. When white men first discovered lonely Easter Island or Rapa Nui, to give it its native name, they found there immense and mysterious stone idols by the hundreds. These were unquestionably the product of an intelligence and a culture unknown anywhere else on earth. Besides, they were created and transported in some manner that remains a mystery to this day.

But greater even than the idols was the mystery of a written language. First explorers to touch Easter Island found numbers of manuscripts and carved inscription in a strange and wholly undecipherable tongue. They were, and still are, the only known traces of written language known to the South Seas. No one to this day has succeeded in deciphering the inscriptions nor in suggesting who the unknown writers might have been.

The modern inhabitants of Eastern Island are the lowest of primitive savages, with no culture and no racial memories. They have no memories, no legends of those earlier inhabitants who used a written language and

carved the mighty idols. Science thinks the modern Eastern Islanders are comparatively recent arrivals on the bleak island, not even related to those earlier inhabitants who literally walked off the earth. For that matter, the whole hodge-podge of races throughout the South Seas is a puzzle no anthropologist has been able to solve.

Perhaps the best, even if most fantastic theory, is that Easter Island was the last outpost of that fabulous continent of Mu or Gondwana that, like Atlantis, was supposed to have been swallowed by the sea. Certainly no one has ever been able to find the cradle of strange cultures that crop up so surprisingly among the thousands of tiny islands of Oceania.

These are by no means all the vanished races known to mankind. The prehistoric Neanderthal man over-ran Europe and utterly vanished, to give way to a race of homo sapiens in no way similar. It seems incredible that they could have been completely annihilated. Perhaps they, too, joined the lost races of the world in some undiscovered haven beyond the reach of inquisitive science.

It is a fascinating subject, one that draws the interest of thousands, and one that may never be solved. For the deeper researchers go into the history of lost civilizations, the more they turn up new, fresh mysteries without solution. The lost builders of mighty Stonehenge, the

mystery tribes who built almost identical duplicates of Stonehenge altars on South Sea Islands, the unknown builders of the Great Pyramid, a score of others. All history is a perplexing parade of mighty empires, cultured races, vast civilizations that have walked away from their homes and their temples. Where have they gone? Why did they leave?

There are a hundred incredible, fantastic guesses. But none is more fantastic than the fact itself—that millions of civilized, educated people could walk away into nowhere, into a mysterious land of Never-Return, and vanish forever from the sight of mankind.

Who will be the next to make that Mysterious Journey?

THE END

THE DAY TIME STOPPED MOVING

(Concluded from page 97)

erly. Dave, promise me something! You won't ever do anything like this again, if I promise not to nag you?"

Dave Miller closed his eyes. "There won't be any need to nag, Helen. Some people take a lot of teaching, but I've had my lesson. I've got ideas about the store which I'd been too lazy to try out. You know, I feel more like fighting right now than I have for years! We'll lick 'em, won't we, honey?"

Helen buried her face in the hollow of his shoulder and cried softly. Her words were too muffled to be intelligible. But Dave Miller understood what she meant.

He had thought the whole thing a dream—John Erickson, the "time impulsor" and Major. But that night he read an item in the *Evening Courier* that was to keep him thinking for many days.

POLICE INVESTIGATE DEATH OF SCIENTIST HERE IN LABORATORY

John M. Erickson, director of the Wanamaker Institute, died at his work last night. Erickson was a beloved and valuable figure in the world of science, famous for his recently publicized "time lapse" theory.

Two strange circumstances surrounded his death. One was the presence of a German shepherd dog in the laboratory, its head crushed as if with a sledgehammer. The other was a chain of small metal objects stretching from one corner of the room to the other, as if intended to take the place of wire in a circuit.

Police, however, discount this idea, as there was a roll of wire only a few feet from the body.

THE END



By RAY CUMMINGS

THE WORLD BEYOND

Out of nowhere came these grim, cold, black-clad men, to kidnap three Earth people and carry them to a weird and terrible world where a man could be a giant at will.

THE old woman was dying. There could be no doubt of it now. Surely she would not last through the night. In the dim quiet bedroom he sat watching her, his young face grim and awed. Pathetic business, this ending of earthly life, this passing on. In the silence, from the living room downstairs the gay laughter of the young people at the birthday party came floating up. His birthday—Lee Anthony, twenty-one years old today. He had thought he would feel very different, becoming—legally—a

man. But the only difference now, was that old Anna Green who had been always so good to him, who had taken care of him almost all his life, now was dying.

Terrible business. But old age is queer. Anna knew what was happening. The doctor, who had given Lee the medicines and said he would be back in the morning, hadn't fooled her. And she had only smiled.

Lee tensed as he saw that she was smiling now; and she opened her eyes. His hand went to

Amazing Stories, July 1942



the attack of the robbed men.

hers where it lay, so white, blue-veined on the white bedspread.

"I'm here, Anna. Feel better?"

"Oh, yes. I'm all right." Her faint voice, gently tired, mingled with the sounds from the party downstairs. She heard the laughter. "You should be down there, Lee. I'm all right."

"I should have postponed it," he said. "And what you did, preparing for it—"

She interrupted him, raising her thin arm, which must have seemed so heavy that at once she let it fall again. "Lee—I guess I am glad you're here—want to talk to you—and I guess it better be now."

"Tomorrow—you're too tired now—"

"For me," she said with her gentle smile, "there may not be any tomorrow—not here. Your grandfather, Lee—you really don't remember him?"

"I was only four or five."

"Yes. That was when your father and mother died in the aero accident and your grandfather brought you to me."

Very vaguely he could remember it. He had always understood that Anna Green had loved his grandfather, who had died that same year.

"What I want to tell you, Lee—" She seemed summoning all her last remaining strength. "Your grandfather didn't die. He just went away. What you've never known—he was a scientist. But he was a lot more than that. He had—dreams. Dreams of what we mortals might be—

what we ought to be—but are not. And so he—went away."

This dying old woman; her mind was wandering? . . .

"Oh—yes," Lee said. "But you're much too tired now, Anna dear—"

"Please let me tell you. He had—some scientific apparatus. I didn't see it—I don't know where he went. I think he didn't know either, where he was going. But he was a very good man, Lee. I think he had an intuition—an inspiration. Yes, it must have been that. A man—inspired. And so he went. I've never seen or heard from him since. Yet—what he promised me—if he could accomplish it—tonight—almost now, Lee, would be the time—"

Just a desperately sick old woman whose blurred mind was seeing visions. The thin wrinkled face, like crumpled white parchment, was transfigured as though by a vision. Her sunken eyes were bright with it. A wonderment stirred within Lee Anthony. Why was his heart pounding? It seemed suddenly as though he must be sharing this unknown thing of science—and mysticism. As though something within him—his grandfather's blood perhaps—was responding. . . . He felt suddenly wildly excited.

"Tonight?" he murmured.

"Your grandfather was a very good man, Lee—"

"And you, Anna—all my life I have known how good you are.

Not like most women—you're just all gentleness—just kindness—"

"That was maybe—just an inspiration from him." Her face was bright with it. "I've tried to bring you up—the way he told me. And what I must tell you now—about tonight, I mean—because I may not live to see it—"

Her breath gave out so that her faint tired voice trailed away

"What?" he urged. "What is it, Anna? About tonight—"

What a tumult of weird excitement was within him! Surely this was something momentous. His twenty-first birthday. Different, surely, for Lee Anthony than any similar event had ever been for anyone else.

"He promised me—when you were twenty-one—just then—at this time, if he could manage it—that he would come back—"

"Come back, Anna? Here?"

"Yes. To you and me. Because you would be a man—brought up, the best I could do to make you be—like him—because you would be a man who would know the value of love—and kindness—those things that ought to rule this world—but really do not."

This wild, unreasoning excitement within him . . . ! "You think he will come—tonight, Anna?"

"I really do. I want to live to see him. But now—I don't know—"

He could only sit in silence, gripping her hand. And again the gay voices of his guests

downstairs came up like a roar of intrusion. They didn't know that she was more than indisposed. She had made him promise not to tell them.

Her eyes had closed, and now she opened them again. "They're having a good time, aren't they, Lee? That's what I wanted—for you and them both. You see, I've had to be careful—not to isolate you from life—life as it is. Because your grandfather wanted you to be normal—a healthy, happy—regular young man. Not queer—even though I've tried to show you—"

"If he—he's coming tonight, Anna—we shouldn't have guests here."

"When they have had their fun—"

"They have. We're about finished down there. I'll get rid of them—tell them you're not very well—"

She nodded. "Perhaps that's best—now—"

He was hardly aware of how he broke up the party and sent them away. Then in the sudden heavy silence of the little cottage, here in the grove of trees near the edge of the town, he went quietly back upstairs.

Her eyes were closed. Her white face was placid. Her faint breath was barely discernible. Failing fast now. Quietly he sat beside her. There was nothing that he could do. The doctor had said that very probably she could not live through the night. Poor old Anna. His mind re-

heard the life that she had given him. Always she had been so gentle, so wise, ruling him with kindness.

He remembered some of the things she had reiterated so often that his childish mind had come to realize their inevitable truth. The greatest instinctive desire of every living creature is happiness. And the way to get it was not by depriving others of it. It seemed now as though this old woman had had something of goodness inherent to her—as though she were inspired? And tonight she had said, with her gentle smile as she lay dying, that if that were so—it had been an inspiration from his grandfather.

Something of science which his grandfather had devised, and which had enabled him to—go away. What could that mean? Go where? And why had he gone? To seek an ideal? Because he was dissatisfied with life here? Her half incoherent words had seemed to imply that. And now, because Lee was twenty-one—a man—his grandfather was coming back. Because he had thought that Lee would be able to help him? . . . Help him to do—what?

He stirred in his chair. It was nearly midnight now. The little cottage—this little second floor bedroom where death was hovering — was heavy with brooding silence. It was awesome; almost frightening. He bent closer to the bed. Was she dead? No, there was still a faint

fluttering breath, but it seemed now that there would be no strength for her to speak to him again.

Mysterious business, this passing on. Her eyelids were closed, a symbol of drawn blinds of the crumbling old house in which she had lived for so long. It was almost a tenantless house now. And yet she was somewhere down there behind those drawn blinds. Reluctant perhaps to leave, still she lingered, with the fires going out so that it must be cold . . . cold and silent where she huddled. Or was she hearing now the great organ of the Beyond with its sweep of harmonies summoning her to come—welcoming her. . . .

A shiver ran through young Lee Anthony as he saw that the pallid bloodless lips of the white wrinkled face had stirred into a smile. Down there somewhere her spirit—awed and a little frightened doubtless—had opened some door to let the sound of the organ in—and to let in the great riot of color which must have been outside. . . . And then she had not been frightened, but eager. . . .

He realized suddenly that he was staring at an empty shell and that old Anna Green had gone. . . .

A sound abruptly brought Lee out of his awed thoughts. It was outside the house—the crunching of wheels in the gravel of the driveway—the squeal of grinding brakes. A car had

stopped. He sat erect in his chair, stiffened, listening, with his heart pounding so that the beat of it seemed to shake his tense body. His grandfather—returning?

An automobile horn honked. Footsteps sounded on the verandah. The front doorbell rang.

There were voices outside as he crossed the living room—a man's voice, and then a girl's laugh. He flung open the door. It was a young man in dinner clothes and a tall blonde girl. Tom Franklin, and a vivid, theatrical-looking girl, whom Lee had never seen before. She was inches taller than her companion. She stood clinging to his arm; her beautiful face, with beaded lashes and heavily rouged lips, was laughing. She was swaying; her companion steadied her, but he was swaying himself.

"Easy, Viv," he warned. "We made it—tol' you we would. . . . Hello there, Lee ol' man—your birthday—think I'd forget a thing like that, not on your life. So we come t'celebrate—meet Vivian Lamotte—frien' o' mine. Nice kid, Viv—you'll like her."

"Hello," the girl said. She stared up at Lee. He towered above her, and beside him the undersized and stoop-shouldered Franklin was swaying happily. Admiration leaped into the girl's eyes.

"Say," she murmured, "you sure are a swell looker for a fact. He said you were—but my Gawd—"

"And his birthday too,"

Frank agreed, "so we're gonna celebrate—" His slack-jawed, weak-chinned face radiated happiness and triumph. "Came fas' to get here in time. I tol' Viv I could make it—we never hit a thing—"

"Why, yes—come in," Lee agreed awkwardly. He had only met young Tom Franklin once or twice, a year ago now, and Lee had completely forgotten it. The son of a rich man, with more money than was good for him. . . . With old Anna lying there upstairs—surely he did not want these happy inebriated guests here now. . . .

He stood with them just inside the threshold. "I—I'm awfully sorry," he began. "My birthday—yes, but you see—old Mrs. Green—my guardian—just all the family I've got—she died, just a few minutes ago—upstairs here—I've been here alone with her—"

It sobered them. They stared blankly. "Say, my Gawd, that's tough," the girl murmured. "Your birthday too. Tommy listen, we gotta get goin'—can't celebrate—"

It seemed that there was just a shadow out on the dark verandah. A tall figure in a dark cloak.

"Why—what the hell," Franklin muttered.

A group of gliding soundless figures were out there in the darkness. And across the living room the window sash went up with a thump. A black shape was there, huddled in a great

loose cloak which was over the head so that the thing inside was shapeless.

For an instant Lee and his two companions stood stricken. The shapes seemed babbling with weird unintelligible words. Then from the window came words of English:

"We—want—" Slow words, strangely intoned. Young Tom Franklin broke in on them.

"Say—what the devil—who do you people think you are, comin' in here—" He took a swaying step over the threshold. There was a sudden sharp command from one of the shapes. Lee jumped in front of the girl. On the verandah the gliding figures were engulfing Franklin; he had fallen.

Lee went through the door with a leap, his fist driving at the cowed head of one of the figures—a solid shape that staggered backward from his blow. But the others were on him, dropping down before his rush, gripping his legs and ankles. He went down, fighting. And then something struck his face—something that was like a hand, or a paw with claws that scratched him. His head suddenly was reeling; his senses fading. . . .

How long he fought Lee did not know. He was aware that the girl was screaming—and that he was hurling clutching figures away—figures that came pouncing back. Then the roaring in his head was a vast uproar. The fighting, scrambling dark shapes

all seemed dwindling until they were tiny points of white light—like stars in the great abyss of nothingness. . . .

He knew—as though it were a blurred dream—that he was lying inert on the verandah, with Franklin and the girl lying beside him. . . . The house was being searched. . . . Then the muttering shapes were standing here. Lee felt himself being picked up. And then he was carried silently out into the darkness. The motion seemed to waft him off so that he knew nothing more.

CHAPTER II

The Flight Into Size and Space

LEE came back to consciousness with the feeling that some great length of time must have elapsed. He was on a couch in a small, weird-looking metal room—metal of a dull, grey-white substance like nothing he had ever seen before. With his head still swimming he got up dizzily on one elbow, trying to remember what had happened to him. That fingernail, or claw, had scratched his face. He had been drugged. It seemed obvious. He could remember his roaring senses as he had tried to fight, with the drug gradually overcoming him. . . .

The room had a small door, and a single round window, like a bullseye pane of thick lens. Outside there was darkness, with points of stars. His head was

still humming from the remaining effect of the drug. Or was the humming an outside noise? He was aware as he got to his feet and staggered to the door, that the humming was distantly outside the room. The door was locked; its lever resisted his efforts to turn it.

There he saw the inert figures of the girl, and Tom Franklin. They were lying uninjured on two other small couches against the room's metal wall. The girl stirred a little as he touched her dank forehead. Her dyed blonde hair had fallen disheveled to her shoulders. Franklin lay sprawled, his stiff white shirt bosom dirty and rumpled, his thin sandy hair dangling over his flushed face. His slack mouth was open. He was breathing heavily.

At the lens-window Lee stood gasping, his mind still confused and blurred, trying to encompass what was out there. This was a spaceship! A small globular thing of the white metal. He could see a rim of it, like a flat ring some ten feet beneath him. A spaceship, and obviously it had left the Earth! There was a black firmament—dead-black monstrous abyss with white blazing points of stars. And then, down below and to one side there was just an edge of a great globe visible. The Earth, with the sunlight edging its sweeping crescent limb—the Earth, down there with a familiar coastline and a huge spread of ocean like a giant map in monochrome.

Back on the couch Lee sat

numbed. There was the sound of scraping metal; a doorslide in the wall opened. A face was there—a man with a blur of opalescent light behind him.

"You are all right now?" a voice said.

"Yes. I guess so. Let me out of here—"

Let him out of here? To do what? To make them head this thing back to Earth. . . . To Lee Anthony as he sat confused, the very thoughts were a fantasy. . . . Off the Earth! Out in Space! So often he had read of it, as a future scientific possibility—but with this actuality now his mind seemed hardly to grasp it. . . .

The man's voice said gently, "We cannot trust you. There must be no fighting—"

"I won't fight. What good could it do me?"

"You did fight. That was bad—that was frightening. We must not harm you—"

"Where are we going?" Lee murmured. "Why in the devil are you—"

"We think now it is best to say nothing. We will give you food through here. And over there—behind you—a little doorslide to another room. You and these other two can be comfortable—"

"For how long?" Lee demanded.

"It should not seem many days. Soon we shall go fast. Please watch it at the window—he would want that. You have been taught some science?"

"Yes. I guess so."

To Lee it was a weird, unnatural exchange between captor and captive. The voice, intoning the English words so slowly, so carefully, seemed gentle, concerned with his welfare . . . and afraid of him.

Abruptly the doorslide closed again, and then at once it reopened.

"He would want you to understand what you see," the man said. "You will find it very wonderful—we did, coming down here. This was his room—so long ago when he used it. His dials are there—you can watch them and try to understand. Dials to mark our distance and our size. The size-change will start soon."

Size-change? Lee's numbed mind turned over the words and found them almost meaningless.

"From the window there—what you can see will be very wonderful," the man said again. "He would want you to study it. Please do that."

The doorslide closed. . . .

What you can see from the window will be very wonderful. No one, during the days that followed could adequately describe what Lee Anthony and Thomas Franklin and Vivian saw through that lens-window. A vast panorama in monochrome... a soundless drama of the stars, so immense, so awesome that the human mind could grasp only an infinitesimal fragment of its wonders. . . .

They found the little door which led into another apartment. There were tables and

chairs of earth-style, quaintly old-fashioned. Food and drink were shoved through the doorslide; the necessities of life and a fair comfort of living were provided. But their questions, even as the time passed and lengthened into what on Earth might have been a week or more, remained unanswered. There was only that gentle but firm negation:

"We have decided that he would want us to say nothing. We do not know about this girl and this smaller man. We brought them so that they could not remain on Earth to talk of having seen us. We are sorry about that. He probably won't like it."

"He? Who the devil are you talking about?" Franklin demanded. "See here, if I had you fellows back on Earth now I'd slam you into jail. Damned brigands. You can't do this to me! My—my father's one of the most important men in New York—"

But now the doorside quietly closed.

A week? It could have been that, or more. In a wall recess of the room Lee found a line of tiny dials with moving pointers. Miles—thousands of miles. A million; ten millions; a hundred million. A light-year; tens, thousands. And, for the size-change, a normal diameter, Unit 1—and then up into thousands.

For hours at a time, silent, awed beyond what he had ever conceived the emotion of awe could mean, he sat at the lens-

window, staring out and trying to understand.

The globe-ship was some five-hundred thousand miles out from Earth when the size-change of the weird little vehicle began. It came to Lee with a sudden shock to his senses, his head reeling, and a tingling within him as though every fibre of his being were suddenly stimulated into a new activity.

"Well, my Gawd," Vivian gasped. "What're they doin' to us now?"

The three of them had been warned by a voice through the doorslide, so that they sat together on one of the couches, waiting for what would happen.

"This—I wish they wouldn't do it," Franklin muttered. "Damn them—I want to get out of here."

Fear seemed to be Franklin's chief emotion now—fear and a petty sense of personal outrage that all this could be done to him against his will. Often, when Lee and the girl were at the window, Franklin had sat brooding, staring at his feet.

"Easy," Lee said. "It evidently won't hurt us. We're started in size-change. The globe, and everything in it, is getting larger."

Weird. The grey metal walls of the room were glowing now with some strange current which suffused them. The starlight from the window-lens mingled with an opalescent sheen from the glowing walls. It was like an

aura, bathing the room—an aura which seemed to penetrate every smallest cell-particle of Lee's body—stimulating it. . . .

Size-change! Vaguely, Lee could fathom how it was accomplished; his mind went back to many scientific articles he had read on the theory of it—only theory, those imaginative scientific pedants had considered it; and now it was a reality upon him! He recalled the learned phrases the writers had used. . . . The *state of matter*. In all the Universe, the inherent factors which govern the state of matter yield most readily to a change. An electronic charge—a current perhaps akin to, but certainly not identical with electricity, would change the state of all organic and inorganic substances . . . a rapid duplication of the fundamental entities within the electrons—and electrons themselves, so unsubstantial—mere whirlpools of nothingness!

A rapid duplication of the fundamental whirlpools—that would add size. The complete substance—with shape unaltered—would grow larger.

All just theory, but here, now, it was brought to an accomplished fact. Within himself, Lee could feel it. But as yet, he could not see it. The glowing room and everything in it was so weirdly luminous, there was no alteration in shape. These objects, the figure of Vivian beside him, and the pallid frightened Franklin, relative to each other

they were no different from before. And the vast panorama of starry Universe beyond the lens-window, the immense distances out there, made any size-change as yet unperceivable.

But the size-change had begun, there was no question of it. With his senses steadying, Lee crossed the room. A weird feeling of lightness was upon him; he swayed as he stood before the little line of dials in the wall-recess. Five hundred thousand miles from Earth. More than twice the distance of the Moon. The globe had gone that far with accelerating velocity so that now the pointers marked a hundred thousand miles an hour—out beyond the Moon, heading for the orbit-line of Mars. Now the size-change pointers were stirring. Unit One, the size this globe had been as it rested on Earth, fifty feet in height, and some thirty feet at its mid-section bulge. Already that unit was two, a globe—which, if it were on Earth, would be a hundred feet high. And Lee himself? He would be a giant more than twelve feet tall now. . . . He stood staring at the dials for a moment or two. That little pointer of the first of the size-change dials was creeping around. An acceleration! Another moment and it had touched Unit four. A two hundred foot globe. And Lee, if he had been on Earth, would already be a towering human nearly twenty-five feet in height!

Behind him, he heard Frank-

lin suddenly muttering, "If only I could change without everything else changing! Damn them all—what I could do—"

"You're nuts," Vivian said. "I don't see anything growing bigger—everything here—jus' the same." Her laugh was abruptly hysterical. "This room—you two—you look like ghosts. Say, maybe we're all dead an' don't know it."

Queerly her words sent a shiver through Lee. He turned, stared blankly at her. This weird thing! The electronic light streaming from these walls had a stroboscopic quality. The girl's face was greenish, putty-colored, and her teeth shone phosphorescent.

Maybe we're all dead and don't know it. . . . Lee knew that this thing was a matter of cold, precise, logical science. . . . Yet who shall say but what mysticism is not mingled with science? A thing, which if we understood it thoroughly, would be as logical, as precise as the mathematics of science itself? Death? Who shall say what, of actuality, Death may be. A leaving of the mortal shell? A departure from earthly substance? A new state of being? Surely some of those elements were here now. And, logically, why could there not be a state of being not all Death, but only with some of its elements?

"I—I don't like this," Franklin suddenly squealed. On the couch he sat hunched, trembling. "Something wrong here—Lee—"

damn you Lee—don't you feel it?"

Lee tried to smile calmly. "Feel what?"

"We're not—not alone here," Franklin stammered. "Not just you and Vivian and me—something else is here—something you can't see, but you can almost feel. An' I don't like it—"

A presence. Was there indeed something else here, of which now in this new state of being they were vaguely aware? Something—like a fellow voyager—making this weird journey with them? Lee's heart was so wildly beating that it seemed smothering him.

Unit Ten . . . Twenty . . . a Hundred. . . With steady acceleration, the lowest size-change pointer was whirling, and the one above it was moving. The globe was five thousand feet high now. And on Earth Lee would have been a monstrous Titan over six hundred feet tall. A globe, and humans in that tremendous size—the very weight of them—in a moment more of this growth—would disarrange the rotation of the Earth on its axis! . . .

And then abruptly Lee found himself envisaging the monstrous globe out here in Space. A thing to disarrange the mechanics of all the Celestial Universe! In an hour or two, with this acceleration of growth, the globe would be a huge meteorite—then an asteroid. . . .

He stared at the distance dials.

With the growth had come an immense augmentation of velocity. A hundred thousand miles an hour—that had been accelerated a hundred fold now. Ten million miles an hour. . . . Through the window-lens Lee gazed, mute with awe. The size-change was beginning to show! Far down, and to one side the crescent Earth was dwindling . . . Mars was far away in another portion of its orbit—the Moon was behind the Earth. There were just the myriad blazing giant worlds of the stars—infinately remote, with vast distances of inky void between them. And now there was a visible movement to the stars! A sort of shifting movement. . . .

An hour. . . . A day. . . . A week. . . . Who shall try and describe what Lee Anthony beheld during that weird outward journey? . . . For a brief time, after they swept past the orbit of Mars, the great planets of Jupiter and Saturn were almost in a line ahead of the plunging, expanding globe. A monstrous thing now—with electronically charged gravity-plates so that it plunged onward by its own repellant force—the repellant force of the great star-field beneath it.

Lee stared at Jupiter, a lead-colored world with its red spot like a monster's single glaring eye. With the speed of light Jupiter was advancing, swinging off to one side with a visible flow of movement, and dropping down

into the lower void as the globe went past it. Yet, as it approached, visually it had not grown larger. Instead, there was only a steady dwindling. A dwindling of great Saturn, with its gorgeous, luminous rings came next. These approaching planets, seeming to shrink! Because, with Lee's expanding viewpoint, everything in the vast scene was shrinking! Great distances here, in relation to the giant globe, were dwindling! These millions of miles between Saturn and Jupiter had shrunk into thousands. And then were shrinking to hundreds.

Abruptly, with a startled shock to his senses, Lee's viewpoint changed. Always before he had instinctively conceived himself to be his normal six foot earthly size. The starry Universe was vast beyond his conception. And in a second now, that abruptly was altered. He conceived the vehicle as of actuality it was—a globe as large as the ball of Saturn itself! And simultaneously he envisaged the present reality of Saturn. Out in the inky blackness it hung—not a giant ringed world millions of miles away, but only a little ringed ball no bigger than the spaceship—a ringed ball only eight or ten times as big as Lee himself. It hung there for an instant beside them—only a mile or so away perhaps. And as it went past, with both distance and size-change combining now, it shrank with amazing rapidity! A ball only as big as this room. . . . Then no larger than Lee it

hung, still seemingly no further away than before. And then in a few minutes more, a mile out there in the shrinking distance, it was a tiny luminous point, vanishing beyond his vision.

Uranus, little Neptune—Pluto, almost too far away in its orbit to be seen—all of them presently were dwindled and gone. Lee had a glimpse of the Solar system, a mere bunch of lights. The Sun was a tiny spot of light, holding its little family of tiny planets—a mother hen with her brood. It was gone in a moment, lost like a speck of star-dust among the giant starry worlds.

Another day—that is a day as it would have been on Earth. But here was merely a progressing of human existence—a streaming forward of human consciousness. The Light-year dial pointers were all in movement. By Earth standards of size and velocity, long since had the globe's velocity reached and passed the speed of light. Lee had been taught—his book-learning colored by the Einstein postulates—that there could be no speed greater than the speed of light—by Earth standards—perhaps, yes. The globe—by comparison with its original fifty-foot earth-size—might still be traveling no more than a few hundred thousand miles an hour. But this monster—a thing now as big as the whole Solar System doubtless — was speeding through a light-year in a moment!

Futile figures! The human

mind can grasp nothing of the vastness of inter-stellar space. To Lee it was only a shrinking inky void—an emptiness crowded with whirling little worlds all dwindling . . . This crowded space! Often little points of star-dust had come whirling at the globe—colliding, bursting into pin-points of fire. Each of them might have been bigger than the Earth.

There was a time when it seemed that beneath the globe all the tiny stars were shrinking into one lens-shaped cluster. The Inter-stellar Universe—all congealed down there into a blob, and everywhere else there was just nothingness . . . But then little distant glowing nebulae were visible—luminous, floating rings, alone in the emptiness . . . Distant? One of them drifted past, seemingly only a few hundred feet away—a luminous little ring of star-dust. The passage of the monstrous globe seemed to hurl it so that like a blown smoke ring it went into chaos, lost its shape, and vanished.

Then at last all the blobs—each of them, to Earth-size conception, a monstrous Universe—all were dwindled into one blob down to one side of Lee's window. And then they were gone . . .

Just darkness now. Darkness and soundless emptiness. But as he stared at intervals through another long night of his human consciousness, Lee seemed to

feel that the emptiness out there was dwindling—a finite emptiness. He noticed, presently, that the size-change pointers had stopped their movement; the ultimate size of the globe had been reached. The figures of the Light-year dials were meaningless to his comprehension. The velocity was meaningless. And now another little set of dials were in operation. A thousand—something—of distance. There was a meaningless word which named the unit. A thousand Earth-miles, if he had been in his former size? The pointer marked nine hundred in a moment. Was it, perhaps, the distance now from their destination?

Vivian was beside him. "Lee, what's gonna happen to us? Won't this come to an end some time? Lee—you won't let anybody hurt me?"

She was like a child, almost always clinging to him now. And suddenly she said a very strange thing. "Lee, I been thinkin'—back there on Earth I was doin' a lot of things that maybe were pretty rotten—anglin' for his money for instance—an' not carin' much what I had to do to get it." She gestured at the sullen Franklin who was sitting on the couch. "You know—things like that. An' I been thinkin'—you suppose, when we get where we're goin' now, that'll be held against me?"

What a queer thing to say! She was like a child—and so often a child has an insight into

that which is hidden from those more mature!

"I—don't know," Lee muttered.

From the couch, Franklin looked up moodily. "Whispering about me again? I know you are—damn you both. You and everybody else here."

"We're not interested in you," Vivian said.

"Oh, you're not? Well you were, back on Earth. I'm not good enough for you now, eh? He's better—because he's big—big and strong—that the idea? Well if I ever had the chance—"

"Don't be silly," Lee said.

The sullen Franklin was working himself into a rage. Lee seemed to understand Franklin better now. A weakling. Inherently, with a complex of inferiority, the vague consciousness of it lashing him into baffled anger.

"You, Anthony," Franklin burst out, "don't think you've been fooling me. You can put it over that fool girl, but not me. I'm onto you."

"Put what over?" Lee said mildly.

"That you don't know anything about this affair or these men who've got us—you don't know who they are, do you?"

"No. Do you?" Lee asked.

Franklin jumped to his feet. "Don't fence with me. By God, if I was bigger I'd smash your head in. They abducted us, because they wanted you. That fellow said as much near the start of this damned trip. They won't

talk—afraid I'll find out. And you can't guess what it's all about! The hell you can't."

Lee said nothing. But there was a little truth in what Franklin was saying, of course. . . . Those things that the dying old Anna Green had told him—surely this weird voyage had some connection.

He turned away; went back to the window. There was a sheen now. A vague outline of something vast, as though the darkness were ending at a great wall that glowed a little.

It seemed, during the next time-interval, as though the globe might have turned over, so that now it was dropping down upon something tangible. Dropping — floating down — with steadily decreasing velocity, descending to a Surface. The sheen of glow had expanded until now it filled all the lower hemisphere of darkness—a great spread of surface visually coming up. Then there were things to see, illumined by a faint half-light to which color was coming; a faint, pastel color that seemed a rose-glow.

"Why—why," Vivian murmured, "say, it's beautiful, ain't it? It looks like fairyland—or Heaven. It does—don't it, Lee?"

"Yes," Lee murmured. "Like—like—"

The wall-slide rasped. The voice of one of their captors said, "We will arrive soon. We can trust you—there must be no fighting?"

"You can trust us," Lee said.

It was dark in the little curving corridor of the globe, where with silent robed figures around them, they stood while the globe gently landed. Then they were pushed forward, out through the exit port.

The new realm. The World Beyond. What was it? To Lee Anthony then came the feeling that there was a precise scientific explanation of it, of course, And yet, beyond all that pedantry of science, he seemed to know that it was something else, perhaps a place that a man might mould by his dreams. A place that would be what a man made of it, from that which was within himself.

Solemn with awe he went with his companions slowly down the incline.

CHAPTER III

Realm of Mystery

"WE wish nothing of you," the man said, "save that you accept from us what we have to offer. You are hungry. You will let us bring you food."

It was a simple rustic room to which they had been brought—a room in a house seemingly of plaited straw. Crude furnishings were here—table and chairs of Earth fashion, padded with stuffed mats. Woven matting was on the floor. Through a broad latticed window the faint rose-light outside—like a soft pastel twilight—filtered in, tinting the room with a gentle glow.

Thin drapes at the window stirred in a breath of breeze—a warm wind from the hills, scented with the vivid blooms which were everywhere.

It had been a brief walk from the space-globe. Lee had seen what seemed a little village stretching off among the trees. There had been people crowding to see the strangers—men, women and children, in simple crude peasant garb—brief garments that revealed their pink-white bodies. They babbled with strange unintelligible words, crowding forward until the robed men from the globe shoved them away.

It was a pastoral, peaceful scene—a little country-side drowsing in the warm rosy twilight. Out by the river there were fields where men stood at their simple agricultural implements—stood at rest, staring curiously at the commotion in the village.

And still Lee's captors would say nothing, merely drew them forward, into this room. Then all of them left, save one. He had doffed his robe now. He was an old man, with long grey-white hair to the base of his neck. He stood smiling. His voice, with the English words queerly pronounced, was gentle, but with a firm finality of command.

"My name is Arkoh," he said. "I am to see that you are made comfortable. This house is yours. There are several rooms, so that you may do in them as you wish."

"Thank you," Lee said. "But you can certainly understand—I have asked many questions and never had any answers. If you wish to talk to me alone—"

"That will come presently. There is no reason for you to be worried—"

"We're not worried," Franklin burst out. "We're fed up with this highhanded stuff. You'll answer questions now. What I demand to know is why—"

"Take it easy," Lee warned.

Franklin had jumped to his feet. He flung off Lee's hand. "Don't make me laugh. I know you're one of them—everything about you is a fake. You got us into this—"

"So? You would bring strife here from your Earth?" Arkoh's voice cut in, like a knife-blade cleaving through Franklin's bluster. "That is not permissible. Please do not make it necessary that there should be violence here." He stood motionless. But before his gaze Franklin relaxed into an incoherent muttering.

"Thank you," Arkoh said. "I shall send you the food." He turned and left the room.

Vivian collapsed into a chair. She was trembling. "Well—my Gawd—what is all this? Lee—that old man with his gentle voice—he looked like if you crossed him you'd be dead. Not that he'd hurt you—it would be—would be something else—"

"You talk like an ass," Franklin said. "You've gone crazy—

and I don't blame you—this damned weird thing. For all that old man's smooth talk, we're just prisoners here. Look outside that window—"

It was a little garden, drowsing in the twilight. A man stood watching the window. And as Lee went to the lattice, he could see others, like guards outside.

The man who brought their simple food was a stalwart fellow in a draped garment of brown plaited fibre. His black hair hung thick about his ears. He laid out the food in silence.

"What's *your* name?" Franklin demanded.

"I am Groff."

"And you won't talk either, I suppose? Look here, I can make it worth your while to talk."

"Everyone has all he needs here. There is nothing that you need give us."

"Isn't there? You just give me a chance and I'll show you. No one has all he needs—or all he wants."

Groff did not answer. But as he finished placing the food, and left the room, it seemed to Lee that he shot a queer look back at Franklin. A look so utterly incongruous that it was startling. Franklin saw it and chuckled.

"Well, at least there's one person here who's not so damn weird that it gives you the creeps."

"You don't know what you're talking about," Lee said. With sudden impulse he lowered his voice. "Franklin, listen—there

are a few things that perhaps I can tell you. Things that I can guess—that Vivian senses—”

“I don’t want to hear your explanation. It would be just a lot of damn lies anyway.”

“All right. Perhaps it would. We’ll soon know, I imagine.”

“Let’s eat,” Vivian said. “I’m hungry, even if I am scared.”

To Lee it seemed that the weird mystery here was crowding upon them. As though, here in this dim room, momentous things were waiting to reveal themselves. A strange emotion was upon Lee Anthony. A sort of tense eagerness. Certainly it was not fear. Certainly it seemed impossible that there could be anything here of which he should be afraid. Again his mind went back to old Anna Green and what she had told him of his grandfather. How far away—how long ago that had been. . . . And yet, was Anna Green far away now? Something of her had seemed always to be with him on that long, weird voyage, from the infinite smallness and pettiness of Earth to this realm out beyond the stars. And more than ever now, somehow Lee seemed aware of her presence here in this quiet room. Occultism? He had always told himself that surely he was no mystic. A practical fellow, who could understand science when it was taught him, but certainly never could give credence to mysticism. The dead are dead, and the living are alive; and between them is a gulf—an abyss of nothingness.

Now he found himself wondering. Were all those people on Earth who claimed to feel the presence of dead loved ones near them? Were those people just straining their fancy—just comforting themselves with what they wished to believe? Or was the scoffer himself the fool? And if that could be so, on Earth, why could not this strange realm be of such a quality that an awareness of those who have passed from life would be the normal thing? Who shall say that the mysteries of life and death are unscientific? Was it not rather that they embraced those gaps of science not yet understood? Mysteries which, if only we could understand them, would be mysteries no longer?

Lee had left the table and again was standing at the latticed window, beyond which the drowsing little garden lay silent, and empty now. The guard who had been out here had moved further away; his figure was a blob near a flowered thicket at the house corner. And suddenly Lee was aware of another figure. There was a little splashing fountain near the garden’s center—a rill of water which came down a little embankment and splashed into a pool where the rose light shimmered on the ripples.

The figure was sitting at the edge of the pool—a slim young girl in a brief dress like a drape upon her. She sat, half reclining on the bank by the shimmering water, with her long hair flow-

ing down over her shoulders and a lock of it trailing in the pool. For a moment he thought that she was gazing into the water. Then as the light which tinted her graceful form seemed to intensify, he saw that she was staring at him.

It seemed as though both of them, for that moment, were breathless with a strange emotion awakened in them by the sight of each other. And then slowly the girl rose to her feet. Still gazing at Lee, she came slowly forward with her hair dangling, framing her small oval face. The glow in the night-air tinted her features. It was a face of girlhood, almost mature — a face with wonderment on it now.

He knew that he was smiling; then, a few feet from the window she stopped and said shyly:

"You are Lee Anthony?"

"Yes."

"I am Aura. When you have finished eating, I am to take you to him."

"To him?"

"Yes. The One of Our Guidance. He bade me bring you." Her soft voice was musical; to her, quite obviously, the English was a foreign tongue.

"I'm ready," Lee said. "I'm finished."

One of her slim bare arms went up with a gesture. From the corner of the little house the guard there turned, came inside. Lee turned to the room. The guard entered. "You are to come," he said.

"So we just stay here, prisoners," Franklin muttered. He and Vivian were blankly staring as Lee was led away.

Then in a moment he was alone beside the girl who had come for him. Silently they walked out into the glowing twilight, along a little woodland path with the staring people and the rustic, nestling dwellings blurring in the distance behind them. A little line of wooded hills lay ahead. The sky was like a dark vault—empty. The pastel light on the ground seemed inherent to the trees and the rocks; it streamed out like a faint radiation from everywhere. And then, as Lee gazed up into the abyss of the heavens, suddenly it seemed as though very faintly he could make out a tiny patch of stars. Just one small cluster, high overhead.

"The Universe you came from," Aura said.

"Yes." The crown of her tresses as she walked beside him was at his shoulder. He gazed down at her. "To whom are you taking me? It seems that I could guess—"

"I was told not to talk of that."

"Well, all right. Is it far?"

"No. A little walk — just to that nearest hill."

Again they were silent. "My Earth," he said presently, "do you know much about it?"

"A little. I have been told."

"It seems so far away to me now."

She gazed up at him. She was smiling. "Is it? To me it seems quite close." She gestured. "Just up there. It seemed far to you, I suppose—that was because you were so small, for so long, coming here."

Like a man the size of an ant, trying to walk ten miles. Of course, it would be a monstrous trip. But if that man were steadily to grow larger, as he progressed he would cover the distance very quickly.

"Well," Lee said, "I suppose I can understand that. You were born here, Aura?"

"Yes. Of course."

"Your world here—what is it like?"

She gazed up at him as though surprised. "You have seen it. It is just a simple little place. We have not so many people here in the village, and about that many more—those who live in the hills close around here."

"You mean that's all? Just this village? Just a few thousand people?"

"Oh there are others, of course. Other groups—like ours, I guess—out in the forests—everywhere in all the forests, maybe." Her gesture toward the distant, glowing, wooded horizons was vague. "We have never tried to find out. Why should we? Wherever they are, they have all that they need or want. So have we."

The thing was so utterly simple. He pondered it. "And you—**you're** very happy here?"

Her wide eyes were childlike.

"Why yes. Of course. Why not? Why should not everyone be happy?"

"Well," he said, "there are things—"

"Yes. I have heard of them. Things on your Earth—which the humans create for themselves—but that is very silly. We do not have them here."

Surely he could think of no retort to such childlike faith. Her faith. How horribly criminal it would be to destroy it. A priceless thing—human happiness to be created out of the faith that it was the normal thing. He realized that his heart was pounding, as though now things which had been dormant within him all his life were coming out—clamoring now for recognition.

And then, out of another silence he murmured. "Aura—you're taking me to my grandfather, aren't you? He came here from Earth—and then he sent back there to get me?"

"Yes," she admitted. "So you know it? But I was instructed to—"

"All right. We won't talk of it. And he's told you about me?"

"Yes," she agreed shyly. She caught her breath as she added, "I have been—waiting for you—a long time." Shyly she gazed up at him. The night-breeze had blown her hair partly over her face. Her hand brushed it away so that her gaze met his. "I hoped you would be, well, like you are," she added.

"Oh," he said awkwardly. "Well—thanks."

"And you," she murmured out of another little silence, "you—I hope I haven't disappointed you. I am the way you want—like you wished—"

What a weird thing to say! He smiled. "Not ever having heard of you, Aura, I can't exactly say that I—"

He checked himself. Was she what he had wished? Why yes—surely he had been thinking of her—in his dreams, all his life vaguely picturing something like this for Lee Anthony. . . .

"I guess I have been thinking of you," he agreed. "No, you haven't disappointed me, Aura. You—you are—"

He could find no words to say it. "We are almost there," she said. "He will be very happy to have you come. He is a very good man, Lee. The one, we think, of the most goodness—and wisdom, to guide us all—"

The path had led them up a rocky defile, with gnarled little trees growing between the crags. Ahead, the hillside rose up in a broken, rocky cliff. There was a door, like a small tunnel entrance. A woman in a long white robe was by the door.

"He is here," Aura said. "Young Anthony."

"You go in."

Silently they passed her. The tunnel entrance glowed with the pastel radiance from the rocks. The radiance was a soft blob of color ahead of them.

"You will find that he cannot move now," Aura whispered.

"You will sit by his bed. And talk softly."

"You mean—he's ill?"

"Well—what you would call paralysis. He cannot move. Only his lips—his eyes. He will be gone from us soon, so that then he can only be unseen. A Visitor—"

Her whisper trailed off. Lee's heart was pounding, seeming to thump in his throat as Aura led him silently forward. It was a draped, cave-like little room. Breathless, Lee stared at a couch—a thin old figure lying there—a frail man with white hair that framed his wrinkled face. It was a face that was smiling, its sunken, burning eyes glowing with a new intensity. The lips moved; a faint old voice murmured:

"And you—you are Lee?"

"Yes—grandfather—"

He went slowly forward and sat on the bedside.

CHAPTER IV

Mad Giant

TO LEE, after a moment, his grandfather seemed not awe-inspiring, but just a frail old man, paralyzed into almost complete immobility, lying here almost pathetically happy to have his grandson at last with him. An old man, with nothing of the mystic about him—an old man who had been—unknown to the savants of his Earth—perhaps the greatest scientist among them. Quietly, with pride welling in him, Lee held the wasted,

numbed hand of his grandfather and listened. . . .

Phineas Anthony, the scientist. After many years of research, spending his own private fortune, he had evolved the secret of size-change—solved the intricate problems of anti-gravitational spaceflight; and combining the two, had produced that little vehicle.

A man of science; and perhaps more than that. As old Anna Green had said, perhaps he was a man inspired—a man, following his dreams, his convictions, convinced that somewhere in God's great creation of things that are, there must be an existence freed of those things by which Man himself so often makes human life a tortured hell.

"And Something led me here, Lee," the gentle old voice was saying. "Perhaps not such a coincidence. On this great Inner Surface of gentle light and gentle warmth—with Nature offering nothing against which one must strive—there must be many groups of simple people like these. They have no thought of evil—there is nothing—no one, to teach it to them. If I had not landed here, I think I would have found much the same thing almost anywhere else on the Inner Surface."

"The Inner Surface? I don't understand, grandfather."

A conception—a reality here—that was numbing in its vastness. This was the concave, inner surface, doubtless deep within

the atom of some material substance. A little empty Space here, surrounded by solidity.

"And that—" Lee murmured, "then that little space is our Inter-Stellar abyss?"

"Yes. Of course. The stars, as we call them—from here you could call them tiny particles—like electrons whirling. All of them in this little void. With good eyesight, you can sometimes see them there—"

"I did."

And to this viewpoint which Lee had now—so gigantic, compared to Earth—all the Inter-Stellar universe was a void here of what old Anthony considered would be perhaps eight or ten thousand miles. A void, to Lee now, was itself of no greater volume than the Earth had been to him before!

Silently he pondered it. This Inner Surface—not much bigger, to him now, than the surface of the Earth is to its humans. . . . Suddenly he felt small—infinately tiny. Out here beyond the stars, he was only within the atom of something larger, a human, partly on his way—emerging—outward—

It gave him a new vague conception. As though now, because he was partly emerged, the all-wise Creator was giving him a new insight. Surely in this simple form of existence humans were totally unaware of what evil could be. Was not this a higher form of life than down there on his tiny Earth?

The conception numbed him with awe . . .

"You see, Lee, I have been looking forward to having you become a man—to having you here," old Anthony was saying. As he lay, so utterly motionless, only his voice, his face, his eyes, seemed alive. It was an amazingly expressive old face, radiant, transfigured. "I shall not be here long. You see? And when I have—gone on—when I can only come back here as a Visitor—like Anna Green, you have been aware of her, Lee?"

"Yes, grandfather. Yes, I think I have."

"The awareness is more acute, here, than it was back on Earth. A very comforting thing, Lee. I was saying—I want you here. These people, so simple—you might almost think them child-like—they need someone to guide them. The one who did that—just as I came, was dying. Maybe—maybe that is what led me here. So now I need you."

It welled in Lee with an awe, and a feeling suddenly of humbleness—and of his own inadequacy, so that he murmured,

"But grandfather—I would do my best—but surely—"

"I think it will be given you—the ability—and I've been thinking, Lee, if only some time it might be possible to show them on Earth—"

Lee had been aware that he and old Anthony were alone here. When Lee entered, Aura had at once withdrawn. Now, interrupting his grandfather's faint, gen-

tle voice there was a commotion outside the underground apartment. The sound of women's startled cries, and Aura's voice.

Then Aura burst in, breathless, pale, with her hair flying and on her face and in her eyes a terror so incongruous that Lee's heart went cold.

He gasped, "Aura! Aura, what is it?"

"This terrible thing—that man who came with you—that man, Franklin—he talked with Groff. Some evil spell to put upon Groff—it could only have been that—"

Lee seized her. "What do you mean? Talk slower. Groff? The man who served us that meal—"

"Yes, Groff. And two of the men who were to guard there. What that man said to them—did to them—and when old Arkoh found it out he opposed them—" Her voice was drab with stark horror—so new an emotion that it must have confused her, so that now she just stood trembling.

"Child, come here—come here over to me—" Old Anthony's voice summoned her. "Now—talk more slowly—try and think what you want to tell us . . . What happened?"

"Oh—I saw old Arkoh—him whom I love so much—who always has been so good to me—to us all—I saw him lying there on the floor—"

Words so unnatural here that they seemed to reverberate through the little cave-room

with echoes that jostled and muttered like alien, menacing things which had no right here—and yet, were here.

"You saw him—lying there?" Lee prompted.

"Yes. His throat, with red blood running out of it where they had cut him—and he was dying—he died while I stood there—"

The first murder. A thing so unnatural. Old Anthony stared for an instant mute at the girl who now had covered her face with her hands as she trembled against Lee.

"Killed him?" Lee murmured.

On Anthony's face there was wonderment — disillusion, and then bitterness. "So? This is what comes to us, from Earth?"

Lying so helpless, old Anthony could only murmur that now Lee must do what he could.

"Your own judgement, my son—do what you can to meet this." The sunken, burning eyes of the old man flashed. "If there must be violence here, let it be so. Violence for that which is right."

"Grandfather—yes! That miserable cowardly murderer—"

To meet force, with force. Surely, even in a world of ideals, there is no other way.

With his fists clenched, Lee ran from the cave-room. Frightened women scattered before him at its entrance. Where had Franklin gone? That fellow Groff, and two or three of the guards had gone with him. Cynicism swept Lee; he remembered

the look Groff had flung at Franklin. Even here in this realm—because it was peopled by humans—evil passions could brood. Groff indeed must have been planning something, and he had seen in Franklin a ready helper—a man from Earth, whom Groff very well may have thought would be more resourceful, more experienced in the ways of violence than himself.

This realm where everyone had all of happiness that he could want! Human perfection of existence. A savage laugh of irony was within Lee as he thought of it. No one had ever held out the offer of more than perfection to these people. But Franklin evidently had done it—playing upon the evil which must lie within every living thing, no matter how latent it may be. Awakening in those guards the passion of cupidity—desire for something better than they had now.

What had happened to Vivian? Out in the rose-light dimness, a little way down the path, Lee found himself staring off toward the forest where the village lay nestled. Voices of the frightened people came wafting through the night silence.

"Lee—Lee—"

It was Aura behind him, running after him. "Lee—wait—I belong with you. You know that—"

He gripped her. "That girl from Earth—that Vivian—she

was with Franklin. What happened to her?"

"She went. He took her—"

"She went—voluntarily?"

"Yes. The people saw her running out with Franklin, and Groff and the other men. Oh, Lee—what—what are you going to do?"

"I don't know." He stood for a moment dazed, confused—panting, his fingers twitching. If only he could get a grip on Franklin's throat. And so Vivian went too! That was a laugh—girl of the streets, pretty worthless, on Earth. But here—she had seemed to sense what this realm could mean.

"Aura, where would Groff be likely to go?"

"Go? Why—why I do remember, Groff often went up into the hills. He never said why?"

"Would they have any weapons?"

"Weapons?" Her eyes widened as though for a second she did not comprehend. "Weapons? You mean—instruments with which to kill people? No—how could there be? But a knife can kill. A knife cut old Arkoh's throat. We have knives—in the houses—and knives that are used for the harvests—"

She had turned to gaze out toward the glowing hills . . . "Oh, Lee—look—"

Numbed, with their breath catching in their throats, they stared. Out by the hills a man's figure rose up—monstrous, gigantic figure.

Franklin! He stood beside the

little hill, with a hand on its top, his huge bulk dwarfing it! Franklin, a titan, his head and shoulders looming monstrosly against the inky blackness of the sky!

CHAPTER V

Combat of Titans

"AURA, you think you know where Groff may have gone—those times he went out into the hills?"

"Yes. I think so. Lee—that giant, I think now I understand what must have happened."

The giant shape of Franklin, a mile or two from them, had stood for a moment and then had receded, vanished momentarily as he moved backward behind the hills. Lee and Aura, stunned, still stood beside the little rocky path. Lee's mind was a turmoil of confusion, with only the knowledge that he must do something now, quickly. There were no weapons here in this peaceful little realm. Four or five of these madmen villains—what need had they of weapons? The monstrous power of size. The thought of it struck at Lee with a chill that seemed turning his blood to ice. The monster that Franklin had become—with a size like that he could scatter death with his naked hands.

"I remember now," Aura was gasping. "There was a time when your grandfather was working on his science. Groff was

helping him then. Your grandfather taught Groff much."

"Working at what?"

"It was never said. Then your grandfather gave it up—he had decided it would not be wise here."

Some individual apparatus, with the size-change principle of the space-globe? And Groff had gotten the secret. An abnormality here—Groff with the power of evil latent within him, tempted by this opportunity. What could he have hoped to accomplish? Of what use to him would it be to devastate this little realm? Bitter irony swept Lee. Of what use was vast personal power to anyone? Those madmen of Earth's history, with their lust for conquest—of what use could the conquest be to them? And yet they had plunged on.

He realized that with Groff there could have been a wider field of conquest. Groff had heard much of Earth. With the power of size here, he could master this realm; then seize the space-globe. Go with it to Earth. Why, in a gigantic size there, he and a few villainous companions could master the Earth-world. A mad dream indeed, but Lee knew it was a lustful possibility matched by many in Earth's history.

And then Franklin had come here. Franklin, with his knowledge of Earth which Groff would need. Franklin, with his inherent feeling of inferiority—his groping desire for the strength and

power of size. What an opportunity for Franklin!

Lee heard himself saying out of the turmoil of his thoughts: "Then, Aura—out there in the hills they've got some apparatus, of course, which—"

His words were stricken away. From somewhere in the glowing dimness near at hand there was a groan. A gasping, choking groan; and the sound of something falling.

"Lee—over there—" Aura's whispered words were drab with horror.

A figure which had been staggering among the rocks near them, had fallen. They rushed to it. Vivian! She was trying to drag herself forward. Her hair, streaming down in a sodden mass, was matted with blood. Her pallid face was blood-smear-ed. Her neck and throat were a welter of crimson horror. Beside her on the ground lay a strange-looking apparatus of grids and wires—a metal belt—a skeleton helmet. . . . She was gripping it with a blood-smear-ed hand, dragging it with her.

"Vivian—Vivian—"

"Oh—you, Lee? Thank Gawd I got to you—"

Her elbows gave way; her head and shoulders sank to the rock. Faintly gasping, with blood-foam at her livid lips, she lay motionless. But her glazing eyes gazed up at Lee, and she was trying to smile.

"I went with them—that damned Franklin—he thought I

was as bad as him—" Her faint words were barely audible as he bent down to her. "Just want to tell you, Lee—you're perfectly swell—I guess I fell for you, didn't I? That's over now—just wanted you to know it anyway. There's one of the damned mechanisms they've got—"

"Where are they, Vivian?"

"A cave, not very far from here—down that little ravine—just ahead—they're in there—four or five of them, getting ready to—" Blood was rattling in her throat, choking her. She tried, horribly, to cough. And then she gasped:

"I stole this mechanism. He—Franklin—he caught me—slashed me. He taught I was dead, I guess—but—when he had gone, I got this mechanism—trying to get to you—"

Her choking, rattling breath again gave out. For a moment she lay with a paroxysm of death twitching her. And then, very faintly she gasped:

"Sort of nice—I was able to do one good thing—anyhow. I'm glad of that—"

The paroxysm ended in a moment. Her white lips were still trying to smile as the light went out of her eyes and she was gone. Trembling, Lee stood up, with the mute, white-faced Aura clinging to him. It was fairly obvious how the weird mechanism should be adjusted—anklets, the skeleton helmet of electrodes, the belt around his waist, with its grids, tiny dials and curved battery box. In a moment

he stood with the wires strung from his head, to wrist, ankles and waist. There seemed but one little control switch that would slide over a metal arc of intensity contacts.

"Oh, Lee—what—what are you going to do—?" Aura stood white with terror.

"She said—four or five of them in a cave near here—perhaps they haven't yet gotten large—"

Down in a little ravine Lee found himself running forward in the luminous darkness. He called back, "Aura—you stay where you are—you hide, until it's over—"

Then, in the turmoil of his mind, there was no thought of the girl. There was only the vision of old Anthony lying back there so helpless—his burning eyes bitter with this thing which had so horribly come to his little realm. To meet force with force was the only answer.

It was not Lee's plan to increase his size for a moment now. By doing that, almost at once he would be discovered. And perhaps there were still four or five of the murderers, still not giants, in a cave nearby.

The dim rocky ravine, heavy with shadows, led downward. He came to a tunnel opening, advancing more cautiously now. And then, as he turned an angle ahead of him, down a little subterranean declivity a luminous cave was visible. Groff's hideout. At one of its entrances here Lee

stood for an instant gasping. The five men were here—Groff and four of his villainous companions.

The five bodies lay strewn—horribly mangled. And the wreckage of their size-change mechanisms was strewn among them.

So obvious, what had happened! Franklin had been the first to get large. And at once he had turned on them. Franklin, the weakling who dared not have any rivalry! And now Franklin was outside, out in the hills, a raging, murderous monster. For a moment, in the grisly shambles of the little cave Lee stood transfixed. Then his hand was fumbling at his belt. He shoved the small switch-lever.

There was a shock—a humming—a reeling of his senses. It was akin to what he had felt on the space-globe, but stronger, more intense now. For an instant he staggered, confused. The wires strung on him were glowing; he could feel their heat. Weird luminous opalescence streamed from them—it bathed him—strange electrolite radiance that permeated every minute fibre of his being.

With his head steadying, Lee suddenly was aware of movement all about him. The dim outlines of the cave-room were shrinking with a creeping, crawling movement. Cave-walls and roof all shrinking, dwindling, drawing down upon him. Under his feet the rocky ground seemed hitching forward.

This little cave! In a moment while he stood shocked into immobility, the cave was a tiny cell. Down by his feet the gruesome mangled corpses were the size of children. The cave-roof bumped his head. He must get out of here! The realization stabbed him. Why, in another moment or two these dark walls would close upon him! Then with instant changing viewpoint he saw the true actuality. He was a growing giant, crouching here underground—a giant who would be crushed, mangled by his own monstrous growth.

Lee turned, staggered into the little tunnel, shoved his way out. The walls pressed him; they seemed in a moment to close after him as he gained the outer glowing darkness. . . . There was only a narrow slit in the dwindling cliff to mark the tunnel entrance. Lee had the wits to crouch in a fairly open space as he stared at the dwindling trees, the little hills, all shrinking. Franklin must be around here somewhere. Franklin doubtless would see him in a moment.

And then as Lee rose up, Franklin saw him. Lee put a hand on one of the little hills at his waist, vaulted it so that he faced Franklin with what seemed no more than a hundred feet between them. For that second Franklin was transfixed. Amazement swept his face. His muttering was audible:

"Why—why—what's this—"

An adversary had come to

challenge his power. As Lee bounded forward, on Franklin's face while he stood transfixed, there was wonderment—disappointment—sudden instinctive fear—and then wild rage. He stooped; seized a boulder, hurled it at the oncoming Lee. It missed; and then Lee was on him, seizing him.

Franklin's body had not been enlarging, but as he saw Lee coming, his hand had flung his switch. They gripped each other now, swaying, locked together, staggering. Franklin still was more than head and shoulders above Lee. His huge arms, with amazing power in them, bent Lee backward. He stumbled, went down with Franklin on him. "Got you! Damn you," he said.

His giant hands gripped Lee's throat, but Lee was aware that his own body was enlarging faster than Franklin's, upon which the size-current had only now started to act. If Lee could only resist—just a little bit longer! His groping hands beside him on the ground seized a rock. Monstrous strangling fingers were at this throat—his breath was gone, his head roaring. Then he was aware that he had seized a rock and struck it up into Franklin's face. For a second the hands at Lee's throat relaxed. He gulped in air, desperately broke free and staggered to his feet.

But Franklin was up as quickly. The tiny forest trees crackled under Lee's tread as again he

hurled himself viciously on his antagonist. . . .

At the head of the distant ravine, the numbed Aura crouched alone, staring out at the hills with mute horror—staring at the two monstrous giants slugging it out. Franklin was the larger. She saw Lee rise up, and with a hand on one of the hills, vault over it. Giants that loomed against the sky as they fronted each other and then crashed together, went down.

Lee was underneath! Dear God—

Two monstrous bodies—Lee was lying with a ridge of crags under his shoulders. . . . Franklin's voice was a blurred roar of triumph in the distance. Then she saw Lee's groping hand come up with a monstrous fifty foot boulder. He crashed it home.

They were up again. Their giant staggering lunges had carried them five miles from her. They were almost the size of fighting titans. The blurred distant shapes of them were silhouettes against the glow of the sky. The forest out there was crackling under their tread . . . a blurred roar of breaking, mangled trees. . . .

It was just a few seconds while Aura stared, but each second was an eternity of horror. Then one of the monstrous figures was toppling. A great boulder had crashed on Franklin's head; he had broken loose, staggering while Lee jumped backward and crouched.

For just a second the towering shape of the stricken Franklin loomed up in the sky. And then it fell crashing forward. A swift-flowing stream was there, and the body fell across it—blocking the water which dammed up, then turned aside and went roaring off through the mangled forest.

Lee, again in his former size, sat at old Anthony's bedside, with Aura behind him. The news of the combat out there against the sky had come to Anthony—the excitement of it, too much for his faltering old heart. . . .

"But you will be all right, grandfather. The thing is over now."

"Yes. All right—of course, Lee. Just a visitor here—and you will take my place—"

He lay now—as old Anna Green had been that night—just on the brink. "Lee, listen to me—those mechanisms—the space-globe—Lee, I realize now there is no possibility that we could help Earth—and surely it could only bring us evil here. What we have found here—don't you see, back on Earth each man must create it for himself. Within himself: He could do that, if he chose. And so you—you

must disconnect us—forever—"

"Yes, grandfather—"

"And I—guess that is all—"

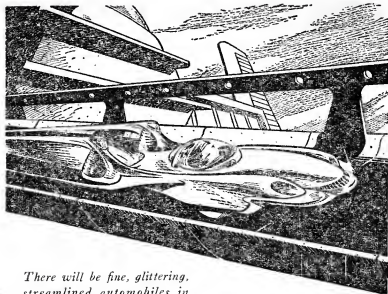
For some time he seemed to hover on the brink, while Lee and Aura, sitting hand in hand, silently watched him. And then he was gone.

The last of the mechanisms irrevocably was smashed. The little line of vacuums and tubes of the space-globe's mechanisms went up into a burst of opalescent light under Lee's grim smashing blows.

Then silently he went outside and joined Aura. Behind them, down the declivity toward the village, the people were gathering. He was silent, his heart pounding with emotion, as he faced them from a little eminence—faced them and heard their shouts, and saw their arms go up to welcome him.

Slowly he and Aura walked down the slope toward his waiting people. And with her by his side, her hand in his, Lee Anthony knew then that he had found fulfillment—the attainment of that which is within every man's heart—man's heritage—those things for which he must never cease to strive.

THE END



There will be fine, glittering, streamlined automobiles in 2000 A.D. Possibly they will run themselves while the driver sits back with an old-fashioned in his hands. Perhaps they will carry folks down the highways at ninety miles an hour in perfect safety. But picking up a hitch-hiker will still be as dangerous as it is today.

HARD GUY

By H. B. CARLETON

HE WAS standing at the side of the glassite super-highway, his arm half-raised, thumb pointed in the same direction as that of the approaching rocket car. Ordinarily Frederick Marden would have passed a hitch-hiker without stopping, but there was something in the bearing and appearance of this one that

caused him to apply his brakes.

Marden opened the door next to the vacant seat beside him.

"Going my way?" he asked.

A pair of steady, unsmiling blue eyes looked him over. "Yeah."

"All right, then. Hop in."

The hitch-hiker took his time. He slid into the seat with casual

deliberateness and slammed the car door shut. The rocket car got under way once more.

They rode in silence for half a mile or so. Finally Marden glanced questioningly at his companion's expressionless profile.

"Where are you headed for?" he asked.

"Dentonville." He spoke from the corner of his mouth, without turning his head.

"Oh, yes. That's the next town, isn't it?"

"Yeah."

Not very communicative, reflected Marden, noticing the rather ragged condition of the other's celo-lex clothing.

"Have much trouble getting rides?"

The passenger turned his head, his blue eyes without emotion.

"Yeah. Most guys are leery about pickin' up hitch-hikers. Scared they'll get robbed."

Marden pursed his lips, nodded.

"Something to that, all right. I'm usually pretty careful myself; but I figured you looked okay."

"Can't always tell by looks," was the calm reply. "'Course us guys mostly pick out some guy with a swell atomic-mobile if we're goin' to pull a stick-up. When we see a old heap like this one there's usually not enough dough to make it pay."

Marden felt his jaw drop.

"Say, you sound like you go in for that sort of thing! I'm telling you right now, I haven't

enough cash on me to make it worth your while. I'm just a salesman, trying to get along."

"You got nothin' to worry about," his passenger assured him. "Stick-ups ain't my racket."

An audible sigh of relief escaped Marden.

"I'm certainly glad to hear that! What is your—er—racket, anyway?"

The blue eyes frosted over.

"Look, chum, sometimes it ain't exactly healthy to ask questions like that."

"Pardon me," Marden said hastily. "I didn't mean anything. It's none of my business, of course."

The calm eyes flicked over his contrite expression.

"Skip it, pal. You look like a right guy. I'll put you next to somethin'. Only keep your lip buttoned, see?"

"Oh, absolutely."

"I'm Mike Eagen—head of the Strato Rovers."

"No!" Marden was plainly awed. "The Strato Rovers, eh? I've heard of them, all right."

The other nodded complacently.

"Yeah. We're about the toughest mob this side of Mars. We don't bother honest people, though. We get ours from the crooks and racketeers. They can't squeal to the Interplanetary Police."

"There's a lot in what you say," agreed Marden. "And of course that puts your . . . mob in the Robin Hood class."

"Robin Hood—nuts! That guy was a dope! Runnin' around with bows and arrows. Why, we got a mystery ray that paralyzes anybody that starts up with us. They're all right when it wears off, but by that time we get away."

Marden was properly impressed.

"A mystery ray! With a weapon like that, you should be able to walk into a bank and clean it out without any trouble."

His passenger's lips curled.

"I told you, we don't bother honest people. We even help the S.P. sometimes. Right now we're workin' with the Earth-Mars G-men in roundin' up a gang of fifth-columnists that are plan-nin' on takin' over the gov'ment. They're led by the Black Hornet. This Black Hornet goes around pretendin' like he's a big business man, but he's really a international spy."

"A—what?"

"A international spy," repeated Marden's companion, shortly. "The E-M G-men say he's the most dangerous man in the country. But he won't last long with the Strato Rovers on his trail."

Marden nodded.

"I can believe that. Tell me, Eagen, what are you doing out here around a small Earth town

like Dentonville?"

"The gov'ment's buildin' some kind of a ammunition place near here, and I understand the Black Hornet's figurin' on wreckin' everything. 'Course he won't get away with it."

Scattered plasticade houses on either side of the road indicated they had reached the outskirts of Dentonville. Mike Eagen pointed ahead to a small white house set back among a cluster of trees.

"There's where I'm holed up. Drop me off in front."

A young woman in a faded blue satin-glass house-dress was standing at the gate of the white picket fence. She watched in silence as the passenger stepped from the rocket car and lifted his hand to the driver in careless farewell.

"Thanks for the lift, chum," said Mike Eagen.

"Not at all," replied Marden. "Glad to have been of service to Mike Eagen."

The woman smiled to him.

"He's told you his name, I see."

Marden lifted his hat.

"Indeed he has."

"Michael is all right," she said.

"I do think, though, that he reads too many Buck Gordon Interplanetary comic books for a boy of eleven."

THE END

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THE RAT RACKET

By DAVID H. KELLER, M.D.

With Dr. Keller's genius for hitting at vital spots every time, he now gives us a brand new idea and an ingenious solution. We hope no racketeers read this story. They might, as a result, cause the police some trouble. Fortunately, however, the racket has a flaw.

RICHARD MOYER, senior partner of the firm of Moyer & Perkins, read that letter over twice before he called in the man who had helped him make the importing of high grade groceries from England a most profitable business for over twenty years.

He simply handed the letter over to Paul Perkins without a word of explanation. The latter read it through and handed it back in equal silence, but the hand that held the letter trembled.

"Just another racket," exclaimed Moyer, finally.

"Looks like it. I suppose we were foolish to start in paying



They were running out through the

Amazing Stories, Nov. 1931



picture. A crazed man tore it from the wall.

for protection. First our trucks were threatened; then the new building; after that our best customers were bombed, and we had to pay to protect them. Your son was kidnapped—and the police! They even went so far as to advise that we keep on paying—and now this letter! We might as well close out the business. All our profits go toward supporting a gang of criminals who have muscled into every type of American industry.”

“On the face of it the letter looks innocent enough,” sighed Perkins, as he picked it up and gave it another reading. “Simply says that the rat menace is increasing, cites several business houses where the rodents have done a great deal of damage, and offers to give our warehouses complete protection for five thousand a week. You could show that letter to a hundred police officials and they would laugh at your fears. But I am not laughing. Because that letter was written on the same damaged typewriter that the other letters were written on and those gangsters have not failed to make any of their threats good.”

“Suppose we pretend that they are honest, and answer their letter and send them a check for the first week’s protection?”

“They will laugh at you and send back the check.”

“They may, at that. Then we will give them the cash. In either case, it will give us time to think. I feel that they are only experimenting with us. They are

after larger game than five thousand a week. We shall see and hear more of this rat business in a while. Write to them and tell them that we will pay the cash, and put the entire matter in the hands of the Chamber of Commerce. If it does not act soon, the entire city will be in the hands of the gangsters.”

The complaint of Moyer & Perkins was only one of a dozen similar ones which reached the Chamber of Commerce that day. In a secluded room of the Manufacturers’ Club a dozen wealthy men met day after day, hearing and weighing evidence against a hundred forms of racketeering which was rapidly becoming a terrible and powerful enemy to the varied industries of the Metropolis. Practically every business had been threatened and more than one captain of industry blustered openly, but paid his weekly tribute silently in order to protect his business, family, and home.

Up to this time the usual weapon had been the strong arm man and the bomb. While these were bad enough, they were at least understood. When it came to rats, it was different. Of course, everybody knew something about rats—that they were supposed to be numerous around the river fronts and warehouses—but on the other hand, rats were seldom seen in daylight, and there were many New Yorkers who never saw one.

Not one of the dozen men had been raised on a farm and none

had served in the trenches during the World War. They did not understand rats, so, they hesitated, and finally simply advised the merchants who had received the rat letters to use their own judgement. As a result, some paid tribute and some did not. There is no evidence to show that those who paid were one hundred per cent free from rats in their warehouses, but within a week there was ample proof that at least three wholesale groceries and one laundry had been invaded overnight by rats in sufficient quantity to cause thousands of dollars' worth of damages. Moyer & Perkins heard the news and decided to pay another five thousand.

The Defense Committee of the Chamber of Commerce was called to an extra meeting at the El Dorado Hotel. The owner of the hotel was one of the Committee, a man who, so far, had taken a very inactive part in its transactions. He did not waste time in giving the reason for the special meeting.

"I was called on the telephone this morning," he explained. "The person at the other end wanted to protect my hotel from rats for the small compensation of twenty-five thousand dollars a week. He referred casually to the three warehouses and one laundry that had been wrecked last week. Right at the present time I have, on an average, twelve hundred guests a night. They are here to be entertained, not to be frightened by rats. But

here is the point. If I yield, every other hotel in the city will be placed in a similar position. Three hundred thousand strangers are in the city every day. Suppose that ten hotels were overrun with rats in one week and the fact was circulated in the press? What would that cost the city?

"Better pay it," growled one of the men. He happened to own a hotel. He knew how temperamental was the pleasure-seeking stranger. Singularly, that advice was the only brand given by the rest of the Committee. They seemed strangely unable to offer any remedy except to keep on paying and in every way possible bar unpleasant news from the newspapers.

Inside of next month, fifty-five hotels were paying a weekly tax to the rat racketeers. One small hotel refused, and was at once deluged with an army of rats which drove out guests and employees, killed one old scrub woman and severely injured twenty of the cooks, waiters and porters who received the brunt of the rodent onslaught.

Moyer & Perkins were still paying the five thousand a week when, to their surprise, a visitor dropped into their office and casually suggested that they sell him their business.

"It used to be a good business," explained Moyer.

"It still is," interrupted Perkins. "What my partner means is this. We have our share of trade, but the overhead has be-

come so heavy that we have not been able to make any money lately."

"That is what I understand," commented the stranger. "In fact, I was sent here by the Chamber of Commerce. They told me you had been paying money for rat protection. That is about the only reason I want to buy your business. Your business is supposed to be worth about two hundred thousand and your real estate as much more. Suppose I give you half a million and advise you to keep quiet about the sale?"

"You mean carry on the business under the old name?" asked Moyer, looking at the prospective buyer earnestly.

"Something like that."

The Englishman shook his head.

"Not and remain in this country! They kidnapped my son. No telling what they will do next, if the policies of the firm are changed. Anything that is done we shall be blamed for, no matter who really owns the business."

"Then, you and your partner take a vacation in Europe. You can afford it. All I am asking for is an exact account of your transactions with these racketeers, so I can have something to work on."

"May I ask what you want to do with the business?" interrogated the Junior Partner, Perkins.

"Certainly. I intend to use it as one of my experimental laboratories for the study of a

mammal, known as the *Mus Norvegicus*, called, in common English, the brown rat. He is supposed to have originated from the *Mus Humiliatus* of Central Asia. Now will you gentlemen take the half million?"

"We will!" exclaimed Perkins.

"Then may I ask your name?"

"Winifred Willowby."

"Not the one who is reputed to own more United States bonds than any other man in America?" gasped Richard Moyer.

"I won't admit that I do, but I am the man you are thinking about."

"Then I simply cannot understand why you want to mix up in this rat business."

"Simple enough. I am a hundred per cent American. For five generations my people have been born and buried in this city. I own over two hundred million dollars worth of land here. When the dregs of Europe come over to my city and use the rats of Asia to bleed that city white, then I personally protest. I am going to start something. I am not sure what, but when I finish, this city will be practically rat empty and gangster free."

"A large programme, Mr. Willowby," whispered Perkins.

"But I am a large man. Now, suppose I write you gentlemen a check?"

Five minutes later the two partners were alone. Moyer looked at the check, then put it in his pocket, and his hat on his head.

"Suppose we get it cashed?"

he said to Perkins. "You can do as you please with your half, but I am going to take my family and go back to England. That man Willowby is only half pint size, but his blue eyes look cold to me, and I bet he plays a stiff game of bridge. If he starts fighting those gangsters, I do not want to be caught on the battlefield."

"How about starting a business over in England?" asked Perkins.

"Not a bad idea. I came over here and together we made half a million selling English groceries to Americans. Perhaps we can make a million more selling American groceries to Englishmen."

Winifred Willowby not only bought the grocery business of Moyer & Perkins; he bought a laundry, a small hotel, an apartment house and a theatre. He kept all the old employees, put in a manager, instructed that the weekly tribute should be paid as usual, and then disappeared from New York City.

Ten days later, in Paradise Valley, in the broken country below the Poconos of Pennsylvania, he entertained several men, each an authority in his special line of art or science. They kept the appointment, not being at all sure what it was for, but unable to refuse the invitation which was accompanied in each case with a substantial check. They had all heard of Willowby, but none had ever seen him. No doubt all were rather disappoint-

ed at his apparent lack of color and personality. They quickly changed their mind when he started to talk, for there was a man who, when he had something to say, was able to say it briefly and to the point.

"You men are all interested in rats," he began, "and so am I. You have worked with rats in one way or another for a good many years. Perhaps I ought to introduce you to each other. Mr. William Rastell has written the best biological study of rats in the English language. He has done for rats what Beebe did for the pheasant. Now the gentleman next to Mr. Rastell is Mr. Carol Crawford. I doubt if he ever actually saw or willingly handled a rat in all his life, but I am told he knows more about the folklore and traditions of the rat than any other living person. The third of my guests is Professor Wilson. He is the psychologist who has tried to breed different strains of rats, some of superior intelligence and others of the imbecile type. What I want you gentlemen to tell me is why these rats congregate at times in certain buildings of New York City, in such large numbers that they are a serious menace to property and even human life, and, then, as suddenly disappear as they appeared."

"Are they actually doing that?" asked Professor Wilson, who had suddenly become vitally interested in the conversation.

"Suppose they are?" queried Carol Crawford, answering the

question for Willowby. "That is nothing more than they have done for centuries."

"Do you mean migratory movements?" asked the biologist, Rastell. "Rats have always migrated."

"I mean nothing of the kind," protested Crawford. "I mean their sudden appearance in a town or a building, their remaining there for a short time and then their sudden disappearance. The folklore and fairy tales are full of that sort of thing."

"That is why I asked you to come to this conference, Mr. Crawford," explained Willowby. "There is something peculiar happening in New York at the present time, and it has to do with rats and their actions. In some way rats of New York seem to be under the control of a set of racketeers who are able to force them to enter any building they select. The rats come and go suddenly. It is all over in a little while, but when they are in the building, they do a lot of damage."

Mr. Crawford interrupted him.

"I doubt if you use the right word, when you say the rats were forced to enter the building. Perhaps you mean that the rats were by some means placed in such a psychic condition that they wanted to enter the building."

"That brings the matter into my field of research," insisted Professor Wilson. "I doubt the fact that they were forced, but if they wanted to, why that

brings up all kinds of interesting questions."

"That is what I am after, gentlemen. I simply want to present the problem to you and have you solve it. I personally am satisfied with one thing. These rats are no different than the rats of five thousand years ago. They are just like the rats of classic Greece and imperial Rome. Maybe Mr. Crawford will tell us how they acted."

The antiquarian fairly beamed as he started to ride his favorite hobby-horse.

"Of course, the story everyone thinks of is the one concerning the Piper of Hamelin. It was in the year 1284. The rats were thick, and the Piper agreed to lead them out of the town for a certain sum. He played a pipe, no doubt some kind of flute, and the rats followed him. When the people refused to pay, he returned on the 26th of June, the feast of Saints John and Paul, and again played on the pipe. This time the children, one hundred and thirty in number, followed him into a cave and were lost. The date is well documented. A number of historians believe that it actually occurred, and on the gate of the town is the statement,

*'CENTUM TER DENOS CUM
MAGUS AB URBE PUELLOS
DUXERAT ANTE ANNOS
CCLXXII CONDITA
PORTA FUIT.'**

*When the magician (the Piper) had led the one hundred and thirty children out of the city, two hundred and twenty-two years before the gate was built.

"The same story is found, with variations, in all parts of the world. There is, for example, the story of the wicked Hatto, abbot of Fulda. He was visited by a swarm of rats who killed him. I can give you a dozen variations of that story, but in each of them the rats came and went, suddenly, as Mr. Willowby says they have been doing in New York."

"I should like to see a few examples of this mass movement of rats. I saw a lemming migration in Norway, but that was different," explained Rastell. "It seems to me that if we actually saw one of these nocturnal attacks, we might learn why they wanted to do it."

"He is deadly right," agreed Professor Wilson. "A few actual facts are worth a hundred theories."

"That is why I have asked you to help me," explained the richest man in New York. "I have prepared some experimental stations for your use. I can put you in a grocery warehouse and guarantee that inside of a week you will see more rats than you ever dreamed of. I have a laundry and a small hotel. We can work out the details right now. All I am asking of you is to find out, when the rats come, *why they come* and, once we know that, we can do something to solve this problem."

"The game looks interesting," declared the Professor of rat psychology. "What I am interested in is why the rats do it. I

am sure that it is because they want to do it, but are they forced to want to do it? It is a problem that will take a lot of research to solve, but Rastell and I can solve it. With all respects to our friend, Mr. Crawford, I think that he had better stay away and just keep on reading about his little pets. A few thousand vicious rats would be hard for him to deal with."

"I guess you are right," laughed Winifred Willowby. "Crawford and I will stay here and read about it while you two do the actual scientific work. By the way, Crawford, in that story of the Piper, what was given the credit for drawing the rats out of the town?"

"The tune that he played on the pipes!"

"Check and double check. Now I would advise you gentlemen to locate some musical instrument in that warehouse, and if you find one, experiment with it. Of course, you will have to be rather clever to find it. In the first place, the people putting it there will have it under cover and just as soon as the mischief is done they will remove it."

"It is nothing like that," laughed Professor Wilson, almost in scorn. "These are New York rats. It will take more than a little music to lead them from their usual haunts. But Rastell and I will start in at once. Give us the address of the buildings and the authority to use them. How shall we know when the rats are going to come?"

"They will appear within seven days after you stop the racket money. Suppose we adjourn the meeting? I want a few words in private with Mr. Crawford. You other gentlemen can get all the rest of the details from my secretary. He will arrange your salary and expense account. Good night."

He took Mr. Crawford into his bedroom.

"Do you really believe that story, Crawford?"

"I positively do. And the people believe it. The Piper walked down the Bungen-Strasse and to this day no music is ever played in that street. They even date time in that town from the day the children disappeared."

"Then, there must be something in it. Suppose we go over to Europe and find out something about that tune, the tune that drew the rats out of Hamelin?"

Rastell and Wilson followed out their programme. They went to the grocery warehouse and made a rat survey. There were a few rodents there but not many. Then they issued orders that the weekly payment of five thousand dollars be stopped. After that they spent their nights in the warehouse. On the fifth night the rats came by the thousands. They appeared to be hunting for something, but in the meantime, they ate and soiled whatever came their way. The local cats fought heroically, but were soon killed and eaten. The rats came

up from the cellar through the elevator shafts, up the steps, through the cracks in the floor, up and up till they started to run around the roof. Then, at four in the morning, they started to leave, running down the steps in close formation, seemingly panic stricken at their own temerity and anxious only to return to their safe, dark haunts. The two scientists, in their wire observation cage, closed their note book, opened the door of the cage, and started to make a careful search of the building. It revealed nothing but the bones of cats and much spoiled food.

For the next two days they worked carefully through every part of the building, hunting for something to explain the conduct of the rats. They found nothing. All that they were sure of was the fact that the rats had been there, and that they had not come back.

The following week they repeated the experiment in the laundry. The course of events was the same. The payment was refused, then the rats came, devoured and destroyed, stayed a night and left. Nothing was found. They decided to go and have a conference with Winifred Willowby, but he could not be located. The two scientists were left to their own resources. Having no other plausible plan of action, they selected the small hotel for their next experiment. This time they set a hundred wire traps and caught several hundred living rats. These they

subjected to every known experiment, and at the end were forced to acknowledge that all they had learned left them in ignorance as to why the rats came just for one night in such enormous numbers.

Two months later their employer sent for them. It appeared that he had just returned from Europe. He listened to their story, smiled kindly at their perplexity, suggested that they take a vacation and forget about rats for a while, paid all their bills, and discharged them. He even went so far as to say that he was uninterested in rats, that it had just been a passing hobby and that just at present he was working on other matters. So, he asked them to pass out of his life. But he and Carol Crawford went into the wilds of Pike County and did some experimenting on his own account.

Meantime, things were going from bad to worse in New York City. The rat racketeers were becoming bolder, and started to reach after larger game. There were rumors that the Pennsylvania Railroad was paying to protect its terminal and that the Interurban was being bled white to keep the rats out of the subway. Of course, much of this was rumor and none of it reached the newspapers, but there is no doubt about the fact that eight million people were becoming rat-conscious and rat-afraid. It was growing into a worth-while racket, and those behind it were rapidly acquiring more than

riches; they were growing so powerful that they felt able to control the city government.

More than one business tried to resist and more than one business awoke to find that it owned nothing but ruins. Rat protection was worthless when the enemy came by the hundred thousand and even million. The only worth-while defense against the multitudinous enemy was the payment of the weekly tribute, small enough each week, but in the course of the year taking the profits from most of the firms compelled to pay. Within a year the average business in the city was working for the gangsters and content to, at least, be permitted to stay in business.

Then the racket was transferred to other cities, slowly and on a small scale at first; then more boldly. Chicago, Philadelphia and Washington began to feel the pressure. The profits were divided, but always the main share went to New York. For that was where the Big Boys were. And ruling the Big Boys was the Old Man, who was so little known and so seldom seen that his very existence was questioned by some of the smaller gangsters. No one knew how he had obtained his power, but no one was brave enough to deny it. The fact remained that he simply ruled; reigned like a Caesar; dictated like a Napoleon. From back-stage he pulled the wires to make his puppets dance.

It was this man who aroused the interest of Winifred Willow-

by. In other times, in former generations, in far-passed centuries, they might have ruled Rome together, or split it in two ways over their dying bodies. But in 1935 the short sword had been replaced by the ballot box and civil war by the primary election. Neither man had much that the other craved for, yet both prevented the other from the full enjoyment of life. But it was the blue blooded patrician who at last gave in and secretly asked for an interview.

The conference was held on a fallen log on the shore of Porter's Pond in Pike County, Pa. Someone said that if Mark Hopkins sat on one end of a log and a student on the other end, it was a University; but, with Willowby on one end of the log and the Old Man on the other, it became nothing more than a conspiracy against the existence and the very life of the nation.

It was a strange sight, those two opposites on the log. The rich man, a little over five feet, barely a hundred pounds, with the body of a boy and the face of an angel. At the other end a large man, with the torso of an ape, and the face of a Titan, a man who had conquered by crushing, ruthlessly and devastatingly, all who had dared to oppose him. The two were great men, but they were equally lonely. Their very positions as leaders of their respective societies prevented any fraternizing with their followers.

"I do not want to waste your

time, Mr. Consuelo," began Willowby. "We ought to be able to understand each other. You would do nicely if the Federal Government would leave you alone, but it has the peculiar ability of annoying you and interfering with your plans. Am I right?"

"Absolutely! Of course, it does not make any real difference—"

"But it does annoy you—investigations of your income tax and deporting your men now and then?"

"Well, what of it?"

"Simply this. After some years of effort, I am at last able to say that I control the Government."

"That is the silly brag of a child," sneered the Old Man.

"Not at all," and as he said that, Willowby reached down and picked up a handful of pebbles. "See these stones? In the same way I hold in my hand a majority of the Supreme Court, over two-thirds of the Senators and most of the Representatives. I can swing the votes of enough of the states to pass any kind of legislation I wish. Now here is my proposition. You handle the cities. I will turn over the country to you. Together we will run the nation, and all I want is just one thing—just one little favor from you."

"I bet I can guess what that is," laughed the Old Man.

"No doubt, but let me tell you. I want to be the next President."

"I thought so."

"I think we ought to be to-

gether on this thing. Perhaps I could be elected without your help, even in spite of your opposition. But if I am, I will, naturally, try to destroy you. We might end up like the Kilkenny cats. But if we are allies, I have eight years of power and you have eight years of liberty in which to plunder the richest nation in the world. How about it?"

The Old Man drew a deep breath.

"Is this on the level?"

"It has to be. I have a reputation, and it is respectable. I am placing myself in your hands. What is there to prevent you from giving the press an interview tomorrow?"

"You would deny it!"

"But no one would listen to me."

"I suppose not. What do you want me to do?"

"I want you to give the order to your leaders. There are a hundred of them, perhaps a few more. No doubt my list is not absolutely accurate. Call them in, from Chicago, St. Louis, New Orleans, Boston and Philadelphia. Have them all in one room. You introduce me. Let me talk to them. I will open the war chest, fifty million to start with, and more to come. You promise them anything you want, and I will make the promise good."

"And you will be there? Right in the room with me?"

"I will be there."

"I won't do it!" growled the Old Man. "I never have and I

never will. I don't do things that way. A whisper to one or two, and the business is done, but not a hundred at one time. Some of these boys have never seen me."

"Then you want to turn me down?"

"Not exactly, but I am opposed to that meeting."

"Then we are through talking. I will take you to the five-ten train, or, if you want to, I will have my chauffeur drive you to the city."

"Let's talk it over."

"No."

"How about having six of the Big Boys there?"

"No! All on my list or none."

"Your list?"

"Certainly! I am not sure that it is absolutely correct, but it satisfies me."

"Let me see it."

"No reason why you should not."

The Old Man took the paper that was handed to him. It was no casual glance, he gave the names. At last he handed it back to the little man with the casual comment:

"I suppose that is not all you know about my organization?"

"I suppose not. Why not be sensible about this, Mr. Consuelo? If we fight, we will simply kill each other, but if we become allies who can stop us? But I must be sure of you, and the only way I can be sure is to have you talk to your men, and then let me talk to them. We can have the meeting at night in my offices, you know where, top floor of the

Empire Trust. No one need be any the wiser. Half an hour, and all the men can go back with the money in their pockets and the orders in their brains."

"O. K. When shall we meet?"

"A month from today at ten P. M."

"Good. I'll give the orders, but I want the money, the fifty million. It is not much, but part of it will help keep the Big Boys in line. Some of them won't like the idea very much."

"A little cash will influence them. Now, how about taking you back to the city?"

Winifred Willowby made preparations for entertaining his one hundred guests. His largest office was transformed into an assembly room. Its inch-thick carpets, overstuffed chairs and mahogany trimmings gave it an air of luxuriant comfort. There were special chairs for the Big Boys and two very special chairs for the Old Man and the Host of the evening. A large picture frame, hanging on one wall, and carefully covered, gave a hint as to part of the evening's ceremony.

The Empire Trust belonged to Willowby. He had built it so that he could have a private office on the top floor, the sixty-third from the ground. The elevator reached this floor, but there were no steps. Many buildings surpassed it in height, but none in the view that it gave of the city. The guests who arrived first commented on the view and expanded their chests when they

realized that they carried that city in their vest pockets.

At last every chair was occupied. It was a peculiar gathering. It included judges, politicians, pseudo-business men, several lawyers and even the Mayor of one of the largest cities in the Mississippi Valley. Facing them, sat the Old Man and Willowby.

Of the hundred men in the audience not one was at his ease. Most had come because they were afraid to stay away. Many hoped that they would not be recognized. The majority doubted the wisdom of such a meeting and felt that the Old Man was slipping mentally. It was the first time that many of them had even seen him. He was almost as much of an unknown to them as the little man sitting next to him. A peculiar silence hung over the assembly. More than one man fondled the handle of his automatic. No one seemed to be sure of what was going to happen next. It was a fortunate thing that the meeting was held at night; with the audience composed of such men. A daylight gathering would have been impossible.

The Old Man and Willowby held a short whispered conference, and then the leader of American Racketeers stood up. What had been silence before, now became the hush of death. The Old Man was going to talk, and everyone wanted to hear what he had to say. It did not take him long to start.

"You Big Boys have been running the cities before," he growled, "but from tonight on we are going to run the country. Congress and the Supreme Court are going to dance to our music and like it. Our new friend here has promised to deliver the goods, and he does not want much in return. I have told him that we will trade, and what I say goes. Now, you boys listen to Willowby, and remember that I am back of him."

Then he sat down. As far as the records are concerned, that was the longest speech the Old Man made in his life. The Boys hardly knew what to do; they felt they should applaud, but not being certain remained quiet. Then Willowby stood up.

"I do not want very much, gentlemen," he remarked. "I only want to be the next President of the United States, and I can be, with your help. Let me show you a picture."

He walked over to the covered picture, pulled a cord and unveiled it and there, life size, were the Old Man and Willowby shaking hands. Anyone could tell who they were and what they were doing. That brought the house down. Everybody felt that it was time for a little noise. Some of them, who knew the Big Boy well enough, went up and congratulated him on the new political alliance. In the confusion, Winifred Willowby slipped out of the room and no one noticed his absence.

But some one did notice the

sideboard and started to sample the bottles. Soon everyone was drinking a little. But the Old Man did not drink. He just sat there, moodily chewing his cigar and wondering how much of the fifty million he could keep for his share.

Nobody saw the first rat. It dropped from behind the picture and ran under a chair. The next rat did the same. Perhaps fifty rats were in the room before their presence was noticed. By that time they were coming faster, by the dozen, by the hundred. That was different. One rat in a large room meant nothing. A hundred, five hundred in the same room could mean almost anything.

And now they were literally pouring out from back of the picture. A cursing man pulled it to the floor and there was a large hole in the wall, two feet in diameter, and out of that hole the rats were pouring, big brown, hungry rats, dropping to the floor and starting to hunt for food. The puzzled men jumped up on top the chairs; the rats stood on their hind legs and looked at the large chunks of food with black beady, binoculars. The Old Man just sat there, chewing his cigar and cursing. He knew what it all meant seconds before anyone else.

A number of the most fearful men made a dash for the elevator. They were driven back by a torrent of rats climbing up the elevator shaft. Then *fear came—and panic*. With gun and heel,

and broken chairs for clubs, they started in to kill rats, and for every one they killed, a hundred fastened to them with chisel teeth. To make it worse, the lights went out, and they were there in the dark, with mutilation as a beginning and death as an ending, and still the rats poured into the room, up the elevator shaft and out of the hole in the wall.

The Old Man walked across the room, kicking the struggling bodies of his followers out of his pathway. Rats ran up his legs and tried to bite his hands, his face; he swept them off him as a tiger would wipe ants off his fur; at last he came to the window. There was the city of New York in front of him, the city of a million twinkling lights, the tomb of a billion dead hopes; the Morgue of a Nation, covered by laughing, painted faces. He raised the sash and sat on the sill.

"Damn Willowby!" he said. "What a fool I was. But I am going to die clean. No rat is going to send me to Hell!"

And then he dropped.

In the room the struggle kept on—for an hour and then two. At last the screaming ceased, and the only sound was the gnawing of the rats, the crunching of their teeth and their satisfied, little squeaks of pleasure.

The next morning Winifred Willowby called on the Chief of the Secret Service of New York.

With him were several men from Washington.

"I want to tell you something," he said. "A large group of men borrowed my office to have a meeting last night. They wanted privacy and secrecy and they had heard of my place in the Empire Trust Building. So I loaned them the entire floor for the night. But my janitors tell me that something terrible happened. An army of rats invaded the place, as they have been doing with other places in the city, and literally ate every man there; that is, all except one, a fellow by the name of Consuelo, and he preferred to jump out of a window and die clean on the pavement."

"Consuelo?" asked the Chief. "Not the Old Man? Not *that* Consuelo?"

"I think that is the one. Here is a list of the men who were there. I thought you might like to look it over before you gave it to the papers."

The Chief took the list and read it, puzzled.

"Do you mean these men were there last night?"

"I understand so."

"And now they are dead?"

"I think so. Of course, that is for the coroner to say."

"Do you know who these men were?"

"I suppose they were business associates of Consuelo. At least, that is what he told me."

"They were the hundred biggest gangsters in America. They were the brains of everything

vicious in American society. There is not a man there whom we have not been after for years, but we just couldn't pin anything on them. Their death in one night gives the decent people in our country a new lease on life. We can go ahead now and get the little fellows. But, tell me, Mr. Willowby, how did it happen?"

"I told you. They had a meeting and the rats came. You know there was a rat racket which no one thoroughly understood. Anyway, the rats came—and killed them. No one can tell exactly what did happen, because everyone who was there was killed. That is all. I am sorry that it happened in my office—but I thought I was doing the man a favor to loan him the place for the meeting."

That night Crawford and Willowby were talking things over. In rushed Rastell and Wilson, brushing the indignant butler aside.

"We have heard a thousand rumors," began Rastell, "and read as many foolish statements in the papers about the rat tragedy, and we just couldn't wait a minute longer. You just have to tell us what happened. We are not going to leave you till you do."

"You tell them, Crawford," whispered Willowby. "Whenever I talk about it, my voice becomes squeaky."

"It happened this way," explained Crawford. "After you

started to work, Mr. Willowby decided to go over and study the story of the Piper right in the town of Hamelin. We went there and there was no doubt that the town people really believed that it really happened. They told us all about it, and the more we listened and paid them, the more they told. They gave us the very tune the Piper played to make the rats follow him. It was a simple little thing, and we made some phonograph records of it. It seems that when the rats hear that tune, they want to get as close as they can to the source of the music. Then one old man—he gave us some additional bars which he claimed drove the rats frantic for blood, and we made a record of that also.

"Afterwards we came back to America and went up into Pike County. Not so many rats there but enough to experiment with. We tried the short tune and the long tune and they worked on the American rats just like they did on the Hamelin ones. We put two and two together and decided that the rat racketeers in New York were using this method of attracting rats. Just put a repeating phonograph in a building and start it playing, and then the rats would come and eat everything to pieces. Of course, we did not know the psychology of it, but I suppose it has something to do with the effect of musical vibrations on the rat's nervous system.

"Then Mr. Willowby thought
(Concluded on page 176)

THE JAMESON SATELLITE

By NEIL R. JONES

The mammoths of the ancient world have been wonderfully preserved in the ice of Siberia. The cold, only a few miles out in space, will be far more intense than in the polar regions and its power of preserving the dead body would most probably be correspondingly increased. When the hero-scientist of this story knew he must die, he conceived a brilliant idea for the preservation of his body, the result of which even exceeded his expectations. What, how, and why are cleverly told here.

PROLOGUE

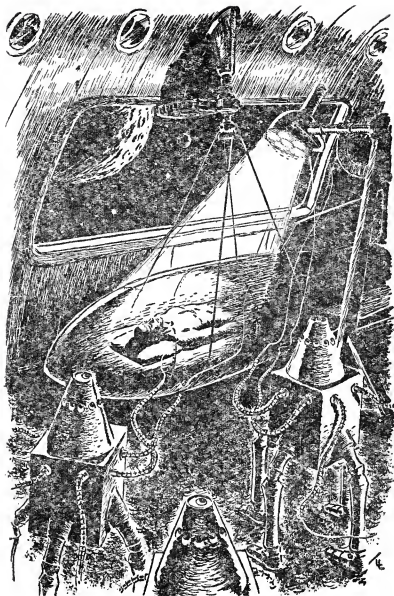
The Rocket Satellite

IN THE depths of space, some twenty thousand miles from the earth, the body of Professor Jameson within its rocket container cruised upon an endless journey, circling the gigantic sphere. The rocket was a satellite of the huge, revolving world around which it held to its orbit. In the year 1958, Professor Jameson had sought for a plan whereby he might preserve his body indefinitely after his death. He had worked long and hard upon the subject.

Since the time of the Phar-

aohs, the human race had looked for a means by which the dead might be preserved against the ravages of time. Great had been the art of the Egyptians in the embalming of their deceased, a practice which was later lost to humanity of the ensuing mechanical age, never to be rediscovered. But even the embalming of the Egyptians—so Professor Jameson had argued—would be futile in the face of millions of years, the dissolution of the corpses being just as eventual as immediate cremation following death.

The professor had looked for a means by which the body could be preserved perfectly forever.



It glowed in a haze of light, the interior clearly revealed.

But eventually he had come to the conclusion that nothing on earth is unchangeable beyond a certain limit of time. Just as long as he sought an earthly means of preservation, he was doomed to disappointment. All earthly elements are composed of atoms which are forever breaking down and building up, but never destroying themselves. A match may be burned, but the atoms are still unchanged, having resolved themselves into smoke, carbon dioxide, ashes, and certain basic elements. It was clear to the professor that he could never accomplish his purpose if he were to employ one system of atomic structure, such as embalming fluid or other concoction, to preserve another system of atomic structure, such as the human body, when all atomic structure is subject to universal change, no matter how slow.

He had then soliloquized upon the possibility of preserving the human body in its state of death until the end of all earthly time—to that day when the earth would return to the sun from which it had sprung. Quite suddenly one day he had conceived the answer to the puzzling problem which obsessed his mind, leaving him awed with its wild, uncanny potentialities.

He would have his body shot into space enclosed in a rocket to become a satellite of the earth as long as the earth continued to exist. He reasoned logically. Any material substance, whether of organic or inorganic origin, cast

into the depths of space would exist indefinitely. He had visualized his dead body enclosed in a rocket flying off into the illimitable maw of space. He would remain in perfect preservation, while on earth millions of generations of mankind would live and die, their bodies to molder into the dust of the forgotten past. He would exist in this unchanged manner until that day when mankind, beneath a cooling sun, should fade out forever in the chill, thin atmosphere of a dying world. And still his body would remain intact and as perfect in its rocket container as on that day of the far-gone past when it had left the earth to be hurled out on its career. What a magnificent idea!

At first he had been assailed with doubts. Suppose his funeral rocket landed upon some other planet or, drawn by the pull of the great sun, were thrown into the flaming folds of the incandescent sphere? Then the rocket might continue on out of the solar system, plunging through the endless seas of space for millions of years, to finally enter the solar system of some far-off star, as meteors often enter ours. Suppose his rocket crashed upon a planet, or the star itself, or became a captive satellite of some celestial body?

It had been at this juncture that the idea of his rocket becoming the satellite of the earth had presented itself, and he had immediately incorporated it into his scheme. The professor had

figured out the amount of radium necessary to carry the rocket far enough away from the earth so that it would not turn around and crash, and still be not so far away but what the earth's gravitational attraction would keep it from leaving the vicinity of the earth and the solar system. Like the moon, it would forever revolve around the earth.

He had chosen an orbit sixty-five thousand miles from the earth for his rocket to follow. The only fears he had entertained concerned the huge meteors which careened through space at tremendous rates of speed. He had overcome this obstacle, however, and had eliminated the possibilities of a collision with these stellar juggernauts. In the rocket were installed radium repulsion rays which swerved all approaching meteors from the path of the rocket as they entered the vicinity of the space wanderer.

The aged professor had prepared for every contingency, and had set down to rest from his labors, reveling in the stupendous, unparalleled results he would obtain. Never would his body undergo decay; and never would his bones bleach to return to the dust of the earth from which all men originally came and to which they must return. His body would remain millions of years in a perfectly preserved state, untouched by the hoary palm of such time as only geologists and astronomers can conceive.

His efforts would surpass even the wildest dreams of H. Rider Haggard, who depicted the wondrous, embalming practices of the ancient nation of Kor in his immortal novel, "She," wherein Holly, under the escort of the incomparable Ayesha, looked upon the magnificent, lifelike masterpieces of embalming by the long-gone peoples of Kor.

With the able assistance of a nephew, who carried out his instructions and wishes following his death, Professor Jameson was sent upon his pilgrimage into space within the rocket he himself had built. The nephew and heir kept the secret forever locked in his heart.

Generation after generation had passed upon its way. Gradually humanity had come to die out, finally disappearing from the earth altogether. Mankind was later replaced by various other forms of life which dominated the globe for their allotted spaces of time before they too became extinct. The years piled up on one another, running into millions, and still the Jameson Satellite kept its lonely vigil around the earth, gradually closing the distance between satellite and planet, yielding reluctantly to the latter's powerful attraction.

Forty million years later, its orbit ranged some twenty thousand miles from the earth while the dead world edged ever nearer the cooling sun whose dull, red ball covered a large expanse of

CHAPTER I

40,000,000 Years After

the sky. Surrounding the flaming sphere, many of the stars could be perceived through the earth's thin, rarefied atmosphere. As the earth cut in slowly and gradually toward the solar luminary, so was the moon revolving ever nearer the earth, appearing like a great gem glowing in the twilight sky.

The rocket containing the remains of Professor Jameson continued its endless travel around the great ball of the earth whose rotation had now ceased entirely—one side forever facing the dying sun. There it pursued its lonely way, a cosmic coffin, accompanied by its funeral cortege of scintillating stars amid the deep silence of the eternal space which enshrouded it. Solitary it remained, except for the occasional passing of a meteor flitting by at a remarkable speed on its aimless journey through the vacuum between the far-flung worlds.

Would the satellite follow its orbit to the world's end, or would its supply of radium soon exhaust itself after so many eons of time, converting the rocket into the prey of the first large meteor which chanced that way? Would it some day return to the earth as its nearer approach portended, and increase its acceleration in a long arc to crash upon the surface of the dead planet? And when the rocket terminated its career, would the body of Professor Jameson be found perfectly preserved or merely a crumbled mound of dust?

ENTERING within the boundaries of the solar system, a long, dark, pointed craft sped across the realms of space towards the tiny point of light which marked the dull red ball of the dying sun which would some day lie cold and dark forever. Like a huge meteor it flashed into the solar system from another chain of planets far out in the illimitable Universe of stars and worlds, heading towards the great red sun at an inconceivable speed.

Within the interior of the space traveler, queer creatures of metal labored at the controls of the space flyer which juggernauted on its way towards the far-off solar luminary. Rapidly it crossed the orbits of Neptune and Uranus and headed sunward. The bodies of these queer creatures were square blocks of a metal closely resembling steel, while for appendages, the metal cube was upheld by four jointed legs capable of movement. A set of six tentacles, all metal, like the rest of the body, curved outward from the upper half of the cubic body. Surmounting it was a queer-shaped head rising to a peak in the center and equipped with a circle of eyes all the way around the head. The creatures, with their mechanical eyes equipped with metal shutters, could see in all directions. A single eye pointed directly up-

ward, being situated in the space of the peaked head, resting in a slight depression of the cranium.

These were the Zoromes of the planet Zor which rotated on its way around a star millions of light years distant from our solar system. The Zoromes, several hundred thousand years before, had reached a stage in science, where they searched for immortality and eternal relief from bodily ills and various deficiencies of flesh and blood anatomy. They had sought freedom from death, and had found it, but at the same time they had destroyed the propensities for birth. And for several hundred thousand years there had been no births and few deaths in the history of the Zoromes.

This strange race of people had built their own mechanical bodies, and by operation upon one another had removed their brains to the metal heads from which they directed the functions and movements of their inorganic anatomies. There had been no deaths due to worn-out bodies. When one part of the mechanical men wore out, it was replaced by a new part, and so the Zoromes continued living their immortal lives which saw few casualties. It was true that, since the innovation of the machines, there had been a few accidents which had seen the destruction of the metal heads with their brains. These were irreparable. Such cases had been few, however, and the population of Zor had decreased but little.

The machine men of Zor had no use for atmosphere, and had it not been for the terrible coldness of space, could have just as well existed in the ether void as upon some planet. Their metal bodies, especially their metal-encased brains, did require a certain amount of heat even though they were able to exist comfortably in temperatures which would instantly have frozen to death a flesh-and-blood creature.

The most popular pastime among the machine men of Zor was the exploration of the Universe. This afforded them a never ending source of interest in the discovery of the variegated inhabitants and conditions of the various planets on which they came to rest. Hundreds of space ships were sent out in all directions, many of them being upon their expeditions for hundreds of years before they returned once more to the home planet of far-off Zor.

This particular space craft of the Zoromes had entered the solar system whose planets were gradually circling in closer to the dull red ball of the declining sun. Several of the machine men of the space craft's crew, which numbered some fifty individuals, were examining the various planets of this particular planetary system carefully through telescopes possessing immense power.

These machine men had no names and were indexed according to letters and numbers. They conversed by means of thought

impulses, and were neither capable of making a sound vocally nor of hearing one uttered.

"Where shall we go?" queried one of the men at the controls questioning another who stood by his side examining a chart on the wall.

"They all appear to be dead worlds, 4R-3579," replied the one addressed, "but the second planet from the sun appears to have an atmosphere which might sustain a few living creatures, and the third planet may also prove interesting for it has a satellite. We shall examine the inner planets first of all, and explore the outer ones later if we decide it is worth the time."

"Too much trouble for nothing," ventured 9G-721. "This system of planets offers us little but what we have seen many times before in our travels. The sun is so cooled that it cannot sustain the more common life on its planets, the type of life forms we usually find in our travels. We should have visited a planetary system with a brighter sun."

"You speak of common life," remarked 25X-987. "What of the uncommon life? Have we not found life existent on cold, dead planets with no sunlight and atmosphere at all?"

"Yes, we have," admitted 9G-721, "but such occasions are exceedingly rare."

"The possibility exists, however, even in this case," reminded 4R-3579, "and what if we do spend a bit of unprofitable time

in this one planetary system—haven't we all an endless lifetime before us? Eternity is ours."

"We shall visit the second planet first of all," directed 25X-987, who was in charge of this particular expedition of the Zoromes, "and on the way there we shall cruise along near the third planet to see what we can of the surface. We may be able to tell whether or not it holds anything of interest to us. If it does, after visiting the second planet, we shall then return to the third. The first world is not worth bothering with."

The space ship from Zor raced on in a direction which would take it several thousand miles above the earth and then on to the planet which we know as Venus. As the space ship rapidly neared the earth, it slackened its speed, so that the Zoromes might examine it closely with their glasses as the ship passed the third planet.

Suddenly, one of the machine men ran excitedly into the room where 25X-987 stood watching the topography of the world beneath him.

"We have found something!" he exclaimed.

"What?"

"Another space ship!"

"Where?"

"But a short distance ahead of us on our course. Come into the foreport of the ship and you can pick it up with the glass."

"Which is the way it's going?" asked 25X-987.

CHAPTER II

The Mysterious Space Craft

"It is behaving queerly," replied the machine man of Zor. "It appears to be in the act of circling the planet."

"Do you suppose that there really is life on that dead world—intelligent beings like ourselves, and that this is one of their space craft?"

"Perhaps it is another exploration craft like our own from some other world," was the suggestion.

"But not of ours," said 25X-987.

Together, the two Zoromes now hastened into the observation room of the space ship where more of the machine men were excitedly examining the mysterious space craft, their thought impulses flying thick and fast like bodiless bullets.

"It is very small!"

"Its speed is slow!"

"The craft can hold but few men," observed one.

"We do not yet know of what size the creatures are," reminded another. "Perhaps there are thousands of them in that space craft out there. They may be of such a small size that it will be necessary to look twice before finding one of them. Such beings are not unknown."

"We shall soon overtake it and see."

"I wonder if they have seen us?"

"Where do you suppose it came from?"

"From the world beneath us," was the suggestion.

"Perhaps."

THE machine men made way for their leader, 25X-987, who regarded the space craft ahead of them critically.

"Have you tried communicating with it yet?" he asked.

"There is no reply to any of our signals," came the answer.

"Come alongside of it then," ordered their commander. "It is small enough to be brought inside our carrying compartment, and we can see with our penetration rays just what manner of creatures it holds. They are intelligent, that is certain, for their space ship does imply as much."

The space flyer of the Zoromes slowed up as it approached the mysterious wanderer of the cosmic void which hovered in the vicinity of the dying world.

"What a queer shape it has," remarked 25X-987. "It is even smaller than I had previously calculated."

A rare occurrence had taken place among the machine men of Zor. They were overcome by a great curiosity which they could not allow to remain unsatisfied. Accustomed as they were to witnessing strange sights and still stranger creatures, meeting up with weird adventures in various corners of the Universe, they had now become hardened to the usual run of experiences which they were in the habit of encountering. It took a great deal

to arouse their unperturbed attitudes. Something new, however, about this queer space craft had gripped their imaginations, and perhaps a subconscious influence asserted to their minds that here they have come across an adventure radically unusual.

"Come alongside it," repeated 25X-987 to the operator as he returned to the control room and gazed through the side of the space ship in the direction of the smaller cosmic wanderer.

"I'm trying to," replied the machine man, "but it seems to jump away a bit every time I get within a certain distance of it. Our ship seems to jump backward a bit too."

"Are they trying to elude us?"

"I don't know. They should pick up more speed if that is their object."

"Perhaps they are now progressing at their maximum speed and cannot increase their acceleration any more."

"Look!" exclaimed the operator. "Did you just see that? The thing has jumped away from us again!"

"Our ship moved also," said 25X-987. "I saw a flash of light shoot from the side of the other craft as it jumped."

Another machine man now entered and spoke to the commander of the Zorome expedition.

"They are using radium repellent rays to keep us from approaching," he informed.

"Counteract it," instructed 25X-987.

The man left, and now the

machine man at the controls of the craft tried again to close with the mysterious wanderer of the space between planets. The effort was successful, and this time there was no glow of repulsion rays from the side of the long metal cylinder.

They now entered the compartment where various objects were transferred from out the depths of space to the interplanetary craft. Then patiently they waited for the rest of the machine men to open the side of their space ship and bring in the queer, elongated cylinder.

"Put it under the penetration ray!" ordered 25X-987. "Then we shall see what it contains!"

The entire group of Zoromes were assembled about the long cylinder, whose low nickel-plated sides shone brilliantly. With interest they regarded the fifteen-foot object which tapered a bit towards its base. The nose was pointed like a bullet. Eight cylindrical protuberances were affixed to the base while the four sides were equipped with fins such as are seen on aerial bombs to guide them in a direct, unswerving line through the atmosphere. At the base of the strange craft there projected a lever, while in one side was a door which, apparently opened outward. One of the machine men reached forward to open it but was halted by the admonition of the commander.

"Do not open it up yet!" he warned. "We are not aware of what it contains!"

Guided by the hand of one of the machine men, a series of lights shone down upon the cylinder. It became enveloped in a haze of light which rendered the metal sides of the mysterious space craft dim and indistinct while the interior of the cylinder was as clearly revealed as if there had been no covering. The machine men, expecting to see at least several, perhaps many, strange creatures moving about within the metal cylinder, stared aghast at the sight they beheld. There was but one creature, and he was lying perfectly still, either in a state of suspended animation or else of death. He was about twice the height of the mechanical men of Zor. For a long time they gazed at him in a silence of thought, and then their leader instructed them.

"Take him out of the container."

The penetration rays were turned off, and two of the machine men stepped eagerly forward and opened the door. One of them peered within at the recumbent body of the weird-looking individual with the four appendages. The creature lay up against a luxuriously upholstered interior, a strap affixed to his chin while four more straps held both the upper and lower appendages securely to the insides of the cylinder. The machine man released these, and with the help of his comrade removed the body of the creature from the cosmic coffin in which they had found it.

"He is dead!" pronounced one of the machine men after a long and careful examination of the corpse. "He has been like this for a long time."

"There are strange thought impressions left upon his mind," remarked another.

One of the machine men, whose metal body was of a different shade than that of his companions, stepped forward, his cubic body bent over that of the strange, cold creature who was garbed in fantastic accoutrements. He examined the dead organism a moment, and then he turned to his companions.

"Would you like to hear his story?" he asked.

"Yes!" came the concerted reply.

"You shall, then," was the ultimatum. "Bring him into my laboratory. I shall remove his brain and stimulate the cells into activity once more. We shall give him life again, transplanting his brain into the head of one of our machines."

With these words he directed two of the Zoromes to carry the corpse into the laboratory.

As the space ship cruised about in the vicinity of this third planet which 25X-987 had decided to visit on finding the metal cylinder with its queer inhabitant, 8B-52, the experimenter, worked unceasingly in his laboratory to revive the long-dead brain cells to action once more. Finally, after consummating his desires and having his efforts crowned with success, he

placed the brain within the head of a machine. The brain was brought to consciousness. The creature's body was discarded after the all-important brain had been removed.

CHAPTER III

Recalled to Life

AS PROFESSOR Jameson came to, he became aware of a strange feeling. He was sick. The doctors had not expected him to live; they had frankly told him so—but he had cared little in view of the long, happy years stretched out behind him. Perhaps he was not to die yet. He wondered how long he had slept. How strange he felt—as if he had no body. Why couldn't he open his eyes? He tried very hard. A mist swam before him. His eyes had been open all the time but he had not seen before. That was queer, he ruminated. All was silent about his bedside. Had all the doctors and nurses left him to sleep—or to die?

Devil take that mist which now swam before him, obscuring everything in line of vision. He would call his nephew. Vainly he attempted to shout the word "Douglas," but to no avail. Where was his mouth? It seemed as if he had none. Was it all delirium? The strange silence—perhaps he had lost his sense of hearing along with his ability to speak—and he could see nothing distinctly. The mist had

transferred itself into a confused jumble of indistinct objects, some of which moved about before him.

He was now conscious of some impulse in his mind which kept questioning him as to how he felt. He was conscious of other strange ideas which seemed to be impressed upon his brain, but this one thought concerning his indisposition clamored insistently over the lesser ideas. It even seemed just as if someone was addressing him, and impulsively he attempted to utter a sound and tell them how queer he felt. It seemed as if speech had been taken from him. He could not talk, no matter how hard he tried. It was no use. Strange to say, however, the impulse within his mind appeared to be satisfied with the effort, and it now put another question to him. Where was he from? What a strange question—when he was at home. He told them as much. Had he always lived there? Why, yes, of course.

The aged professor was now becoming more astute as to his condition. At first it was only a mild, passive wonderment at his helplessness and the strange thoughts which raced through his mind. Now he attempted to arouse himself from the lethargy.

Quite suddenly his sight cleared, and what a surprise! He could see all the way around him without moving his head! And he could look at the ceiling of his room! His room? Was it his

room! No— It just couldn't be. Where was he? What were those queer machines before him? They moved on four legs. Six tentacles curled outward from their cubical bodies. One of the machines stood close before him. A tentacle shot out from the object and rubbed his head. How strange it felt upon his brow. Instinctively he obeyed the impulse to shove the contraption of metal from him with his hands.

His arms did not rise, instead six tentacles projected upward to force back the machine. Professor Jameson gasped mentally in surprise as he gazed at the result of his urge to push the strange, unearthly looking machine-caricature from him. With trepidation he looked down at his own body to see where the tentacles had come from, and his surprise turned to sheer fright and amazement. His body was like the moving machine which stood before him! Where was he? What ever had happened to him so suddenly? Only a few moments ago he had been in his bed, with the doctors and his nephew bending over him, expecting him to die. The last words he had remembered hearing was the cryptic announcement of one of the doctors.

"He is going now."

But he hadn't died after all, apparently. A horrible thought struck him! Was this the life after death? Or was it an illusion of the mind? He became aware that the machine in front

of him was attempting to communicate something to him. How could it, thought the professor, when he had no mouth. The desire to communicate an idea to him became more insistent. The suggestion of the machine man's question was in his mind. Telepathy, thought he.

The creature was asking about the place whence he had come. He didn't know; his mind was in such a turmoil of thoughts and conflicting ideas. He allowed himself to be led to a window where the machine with waving tentacle pointed towards an object outside. It was a queer sensation to be walking on the four metal legs. He looked from the window and he saw that which caused him to nearly drop over, so astounded was he.

The professor found himself gazing out from the boundless depths of space across the cosmic void to where a huge planet lay quiet. Now he was sure it was an illusion which made his mind and sight behave so queerly. He was troubled by a very strange dream. Carefully he examined the topography of the gigantic globe which rested off in the distance. At the same time he could see back of him the concourse of mechanical creatures crowding up behind him, and he was aware of a telepathic conversation which was being carried on behind him—or just before him. Which was it now? Eyes extended all the way around his head, while there existed no difference on any of the four sides of his

cubed body. His mechanical legs were capable of moving in any of four given directions with perfect ease, he discovered.

The planet was not the earth—of that he was sure. None of the familiar continents lay before his eyes. And then he saw the great dull red ball of the dying sun. That was not the sun of his earth. It had been a great deal more brilliant.

"Did you come from that planet?" came the thought impulse from the mechanism by his side.

"No," he returned.

He then allowed the machine men—for he assumed that they were machine men, and he reasoned that, somehow or other they had by some marvelous transformation made him over just as they were—to lead him through the craft of which he now took notice for the first time. It was an interplanetary flyer, or space ship, he firmly believed.

25X-987 now took him to the compartment which they had removed him to from the strange container they had found wandering in the vicinity of the nearby world. There they showed him the long cylinder.

"It's my rocket satellite!" exclaimed Professor Jameson to himself, though in reality every one of the machine men received his thoughts plainly. "What is it doing here?"

"We found your dead body within it," answered 25X-987. "Your brain was removed to the machine after having been stim-

ulated into activity once more. Your carcass was thrown away."

Professor Jameson just stood dumfounded by the words of the machine man.

"So I did die!" exclaimed the professor. "And my body was placed within the rocket to remain in everlasting preservation until the end of all earthly time! Success! I have now attained unrivaled success!"

He then turned to the machine man.

"How long have I been that way?" he asked excitedly.

"How should we know?" replied the Zorome. "We picked up your rocket only a short time ago, which, according to your computation, would be less than a day. This is our first visit to your planetary system and we chanced upon your rocket. So it is a satellite? We didn't watch it long enough to discover whether or not it was a satellite. At first we thought it to be another traveling space craft, but when it refused to answer our signals we investigated."

"And so that was the earth at which I looked," mused the professor. "No wonder I didn't recognize it. The topography has changed so much. How different the sun appears—it must have been over a million years ago when I died!"

"Many millions," corrected 25X-987. "Suns of such size as this one do not cool in so short a time as you suggest."

Professor Jameson, in spite of all his amazing computations be-

fore his death, was staggered by the reality.

"Who are you?" he suddenly asked.

"We are the Zoromes from Zor, a planet of a sun far across the Universe."

25X-987 then went on to tell Professor Jameson something about how the Zoromes had attained their high stage of development and had instantly put a stop to all birth, evolution and death of their people, by becoming machine men.

CHAPTER IV

The Dying World

"AND now tell us of yourself," said 25X-987, "and about your world."

Professor Jameson, noted in college as a lecturer of no mean ability and perfectly capable of relating intelligently to them the story of the earth's history, evolution and march of events following the birth of civilization up until the time when he died, began his story. The mental speech hampered him for a time, but he soon became accustomed to it so as to use it easily, and he found it preferable to vocal speech after a while. The Zoromes listened interestedly to the long account until Professor Jameson had finished.

"My nephew," concluded the professor, "evidently obeyed my instructions and placed my body in the rocket I had built, shooting it out into space where I be-

came the satellite of the earth for these many millions of years."

"Do you really want to know how long you were dead before we found you?" asked 25X-987. "It would be interesting to find out."

"Yes, I should like very much to know," replied the professor.

"Our greatest mathematician, 459C-79, will tell it to you." The mathematician stepped forward. Upon one side of his cube were many buttons arranged in long columns and squares.

"What is your unit of measuring?" he asked.

"A mile."

"How many times more is a mile than is the length of your rocket satellite?"

"My rocket is fifteen feet long. A mile is five thousand two hundred and eighty feet."

The mathematician depressed a few buttons.

"How far, or how many miles from the sun was your planet at that time?"

"Ninety-three million miles," was the reply.

"And your world's satellite—which you call moon from your planet—earth?"

"Two hundred and forty thousand miles."

"And your rocket?"

"I figured it to go about sixty-five thousand miles from the earth."

"It was only twenty thousand miles from the earth when we picked it up," said the mathematician, depressing a few more

buttons. "The moon and sun are also much nearer your planet now."

Professor Jameson gave way to a mental ejaculation of amazement.

"Do you know how long you have cruised around the planet in your own satellite?" said the mathematician. "Since you began that journey, the planet which you call the earth has revolved around the sun over forty million times."

"Forty—million—years!" exclaimed Professor Jameson haltingly. "Humanity must then have all perished from the earth long ago! I'm the last man on earth!"

"It is a dead world now," interjected 25X-987.

"Of course," elucidated the mathematician, "those last few million years are much shorter than the ones in which you lived. The earth's orbit is of less diameter and its speed of revolution is greatly increased, due to its proximity to the cooling sun. I should say that your year was some four times as long as the time in which it now takes your old planet to circumnavigate the sun.

"How many days were there in your year?"

"Three hundred and sixty-five."

"The planet has now ceased rotating entirely."

"Seems queer that your rocket satellite should avoid the meteors so long," observed 459C-79, the mathematician.

"Automatic radium repulsion rays," explained the professor.

"The very rays which kept us from approaching your rocket," stated 25X-987, "until we neutralized them."

"You died and were shot out into space long before any life occurred on Zor," soliloquized one of the machine men. "Our people had not yet even been born when yours had probably disappeared entirely from the face of the earth."

"Hearken to 72N-4783," said 25X-987, "he is our philosopher, and he just loves to dwell on the past life of Zor when we were flesh and blood creatures with the threat of death hanging always over our heads. At that time, like the life you knew, we were born, we lived and died, all within a very short time, comparatively."

"Of course, time has come to mean nothing to us, especially when we are out in space," observed 72N-4783. "We never keep track of it on our expeditions, though back in Zor such accounts are accurately kept. By the way, do you know how long we stood here while you recounted to us the history of your planet? Our machine bodies never get tired, you know."

"Well," ruminated Professor Jameson, giving a generous allowance of time. "I should say about a half a day, although it seemed scarcely as long as that."

"We listened to you for four days," replied 72N-4783.

Professor Jameson was really aghast.

"Really, I hadn't meant to be such a bore," he apologized.

"That is nothing," replied the other. "Your story was interesting, and if it had been twice as long, it would not have mattered, nor would it have seemed any longer. Time is merely relative, and in space actual time does not exist at all, any more than your forty million years' cessation of life seemed more than a few moments to you. We saw that it was so when your first thought impressions reached us following your revival."

"Let us continue on to your planet earth," then said 25X-987. "Perhaps we shall find more startling disclosures there."

As the space ship of the Zoromes approached the sphere from which Professor Jameson had been hurled in his rocket forty million years before, the professor was wondering how the earth would appear, and what radical changes he would find. Already he knew that the geographical conditions of the various continents were changed. He had seen as much from the space ship.

A short time later the earth was reached. The space travelers from Zor, as well as Professor Jameson, emerged from the cosmic flyer to walk upon the surface of the planet. The earth had ceased rotating, leaving one-half its surface always toward the sun. This side of the earth was heated to a considerable degree,

while its antipodes, turned always away from the solar luminary, was a cold, frigid, desolate waste. The space travelers from Zor did not dare to advance very far into either hemisphere, but landed on the narrow, thousand-mile strip of territory separating the earth's frozen half from its sun-baked antipodes.

As Professor Jameson emerged from the space ship with 25X-987, he stared in awe at the great transformation four hundred thousand centuries had wrought. The earth's surface, its sky and the sun were all so changed and unearthly appearing. Off to the east the blood red ball of the slowly cooling sun rested upon the horizon, lighting up the eternal day. The earth's rotation had ceased entirely, and it hung motionless in the sky as it revolved around its solar parent, its orbit slowly but surely cutting in toward the great body of the sun. The two inner planets, Mercury and Venus, were now very close to the blood red orb whose scintillating, dazzling brilliance had been lost in its cooling process. Soon, the two nearer planets would succumb to the great pull of the solar luminary and return to the flaming folds, from which they had been hurled out as gaseous bodies in the dim, age-old past, when their careers had just begun.

The atmosphere was nearly gone, so rarefied had it become, and through it Professor Jameson could view with amazing clarity without discomfort to his

eyes the bloated body of the dying sun. It appeared many times the size he had seen it at the time of his death, on account of its relative nearness. The earth had advanced a great deal closer to the great star around which it swung.

The sky towards the west was pitch black except for the iridescent twinkle of the fiery stars which studded that section of the heavens. As he watched, a faint glow suffused the western sky, gradually growing brighter, the full moon majestically lifted itself above the horizon, casting its pale, ethereal radiance upon the dying world beneath. It was increased to many times the size Professor Jameson had ever seen it during his natural lifetime. The earth's greater attraction was drawing upon the moon just as the sun was pulling the earth ever nearer itself.

This cheerless landscape confronting the professor represented the state of existence to which the earth had come. It was a magnificent spread of loneliness which bore no witness to the fact that it had seen the teeming of life in better ages long ago. The weird, yet beautiful scene, spread in a melancholy panorama before his eyes, drove his thoughts into gloomy abstraction with its dismal, depressing influence. Its funereal, oppressive aspect smote him suddenly with the chill of a terrible loneliness.

25X-987 aroused Professor Jameson from his lethargic reverie. "Let us walk around and see

what we can find. I can understand how you feel in regard to the past. It is quite a shock—but it must happen to all worlds sooner or later—even to Zor. When that time comes, the Zoromes will find a new planet on which to live. If you travel with us, you will become accustomed to the sight of seeing dead, lifeless worlds as well as new and beautiful ones pulsating with life and energy. Of course, this world being your own, holds a peculiar sentimental value to you, but it is really one planet among billions."

Professor Jameson was silent.

"I wonder whether or not there are any ruins here to be found?" queried 25X-987.

"I don't believe so," replied the professor. "I remember hearing an eminent scientist of my day state that, given fifty thousand years, every structure and other creation of man would be obliterated entirely from off the earth's surface."

"And he was right," endorsed the machine man of Zor. "Time is a great effacer."

For a long time the machine men wandered over the dreary surface of the earth, and then 25X-987 suggested a change of territory to explore. In the space ship, they moved around the earth to the other side, still keeping to the belt of shadowland which completely encircled the globe like some gigantic ring. Where they now landed arose a series of cones with hollow peaks.

"Volcanoes!" exclaimed the professor.

"Extinct ones," added the machine man.

Leaving the space ship, the fifty or more machine men, including also Professor Jameson, were soon exploring the curiously shaped peaks. The professor, in his wanderings had strayed away from the rest, and now advanced into one of the cup-like depressions of the peak, out of sight of his companions, the Zoromes.

CHAPTER V

Eternity or Death

HE was well in the center of the cavity when the soft ground beneath him gave way suddenly and he catapulted below into the darkness. Through the Stygian gloom he fell in what seemed to be an endless drop. He finally crashed upon something hard. The thin crust of the volcano's mouth had broken through, precipitating him into the deep, hollow interior.

It must have been a long ways to fall—or so it had seemed. Why was he not knocked senseless or killed? Then he felt himself over with three tentacles. His metal legs were four broken, twisted masses of metal, while the lower half of his cubic body was jammed out of shape and split. He could not move, and half of his six tentacles were paralyzed.

How would he ever get out of

there? he wondered. The machine men of Zor might never find him. What would happen to him, then? He would remain in this deathless, monotonous state forever in the black hole of the volcano's interior unable to move. What a horrible thought! He could not starve to death; eating was unknown among the Zoromes, the machines requiring no food. He could not even commit suicide. The only way for him to die would be to smash the strong metal head, and in his present immovable condition, this was impossible.

It suddenly occurred to him to radiate thoughts for help. Would the Zoromes receive his messages? He wondered how far the telepathic messages would carry. He concentrated the powers of his mind upon the call for help, and repeatedly stated his position and plight. He then left his mind clear to receive the thought answers of the Zoromes. He received none. Again he tried. Still he received no welcoming answer. Professor Jameson became dejected.

It was hopeless. The telepathic messages had not reached the machine men of Zor. They were too far away, just as one person may be out of earshot of another's voice. He was doomed to a terrible fate of existence! It were better that his rocket had never been found. He wished that the Zoromes had destroyed him instead of bringing him back to life—back to this!

His thoughts were suddenly broken in upon.

"We're coming!"

"Don't give up hope!"

If the professor's machine body had been equipped with a heart, it would have sung for joy at these welcome thought impressions. A short time later there appeared in the ragged break of the volcano's mouth, where he had fallen through, the metal head of one of the machine men.

"We shall have you out of there soon," he said.

The professor never knew how they managed it for he lost consciousness under some strange ray of light they projected down upon him in his prison. When he came to consciousness once more, it was to find himself inside the space ship.

"If you had fallen and had smashed your head, it would have been all over with you," were the first thought impulses which greeted him. "As it is, however, we can fix you up first rate."

"Why didn't you answer the first time I called to you?" asked the professor. "Didn't you hear me?"

"We heard you, and we answered, but you didn't hear us. You see, your brain is different than ours, and though you can send thought waves as far as we can you cannot receive them from such a great distance."

"I'm wrecked," said the professor, gazing at his twisted

limbs, paralyzed tentacles and jammed body.

"We shall repair you," came the reply. "It is your good fortune that your head was not crushed."

"What are you going to do with me?" queried the professor. "Will you remove my brains to another machine?"

"No, it isn't necessary. We shall merely remove your head and place it upon another machine body."

The Zoromes immediately set to work upon the task, and soon had Professor Jameson's metal head removed from the machine which he had wrecked in his fall down the crater. All during the painless operation, the professor kept up a series of thought exchanges in conversation with the Zoromes, and it seemed but a short time before his head surmounted a new machine and he was ready for further exploration. In the course of his operation, the space ship had moved to a new position, and now as they emerged 25X-987 kept company with Professor Jameson.

"I must keep an eye on you," he said. "You will be getting into more trouble before you get accustomed to the metal bodies."

But Professor Jameson was doing a great deal of thinking. Doubtlessly, these strange machine men who had picked up his rocket in the depths of space and had brought him back to life, were expecting him to travel with them and become adopted

into the ranks of the Zoromes. Did he want to go with them? He couldn't decide. He had forgotten that the machine men could read his innermost thoughts.

"You wish to remain here alone upon the earth?" asked 25X-987. "It is your privilege if you really want it so."

"I don't know," replied Professor Jameson truthfully.

He gazed at the dust around his feet. It had probably been the composition of men, and had changed from time to time into various other atomic structures—of other queer forms of life which had succeeded mankind. It was the law of the atom which never died. And now he had within his power perpetual existence. He could be immortal if he wished! It would be an immortality of never-ending adventures in the vast, endless Universe among the galaxy of stars and planets.

A great loneliness seized him. Would he be happy among these machine men of another far-off world—among these Zoromes? They were kindly and solicitous of his welfare. What better fate could he expect? Still, a longing for his own kind arose in him—the call of humanity. It was irresistible. What could he do? Was it not in vain? Humanity had long since disappeared from the earth—millions of years ago. He wondered what lay beyond the pales of death—the real death, where the body decomposed and wasted away to return to the

dust of the earth and assume new atomic structures.

He had begun to wonder whether or not he had been dead all these forty millions of years—suppose he had been merely in a state of suspended animation. He had remembered a scientist of his day, who had claimed that the body does not die at the point of official death. According to the claims of this man, the cells of the body did not die at the moment at which respiration, heart beats and the blood circulation ceased, but it existed in the semblance of life for several days afterward, especially in the cells of the bones, which died last of all.

Perhaps when he had been sent out into space in his rocket right after his death, the action of the cosmic void was to halt his slow death of the cells in his body, and hold him in suspended animation during the ensuing millions of years. Suppose he should really die—destroying his own brain? What lay beyond real death? Would it be a better plane of existence than the Zoromes could offer him? Would he rediscover humanity, or had they long since arisen to higher planes of existence or reincarnation? Did time exist beyond the mysterious portals of death? If not, then it was possible for him to join the souls of the human race. Had he really been dead all this time? If so, he knew what to expect in case he really destroyed his own brain. Oblivion!

Again the intense feeling of loneliness surged over him and held him within its melancholy grasp. Desperately, he decided to find the nearest cliff and jump from it—head-first! Humanity called; no man lived to companion him. His four metal limbs carried him swiftly to the summit of a nearby precipice. Why not gamble on the hereafter? 25X-987, understanding his trend of thought, did not attempt to restrain him. Instead, the machine man of Zor waited patiently.

As Professor Jameson stood there meditating upon the jump which would hurl him now into a new plane of existence—or into oblivion, the thought transference of 25X-987 reached him. It was laden with the wisdom born of many planets and thousands of centuries' experience.

"Why jump?" asked the machine man. "The dying world

holds your imagination within a morbid clutch. It is all a matter of mental condition. Free your mind of this fascinating influence and come with us to visit other worlds, many of them are both beautiful and new. You will then feel a great difference.

"Will you come?"

The professor considered for a moment as he resisted the impulse to dive off the declivity to the enticing rocks far below. An inspiration seized him. Backing away from the edge of the cliff, he joined 25X-987 once more.

"I shall come," he stated.

He would become an immortal after all and join the Zoromes in their never-ending adventures from world to world. They hastened to the space ship to escape the depressing, dreary influence of the dying world, which had nearly driven Professor Jameson to take the fatal leap to oblivion.

THE END

THE RAT RACKET

that it would be a good idea to make a great rat trap and attract all the rats in the city to it. He had a good deal of work done in the Empire Trust, and rigged up a phonograph with a lot of loud speakers in different parts of the basement. He ran a lot of ropes down a ventilating shaft for the rats to climb on. I think it was his original idea to have them come up to his office by the millions and then use some kind of gas on them. At least, he wanted to get rid of the rats.

(Concluded from page 155)

Someone must have turned on the phonograph with the entire record. Mr. Willowby left the room, went down the elevator and being somewhat absent-minded, told the elevator boy that he could go for the night. Of course, he was surprised to hear all about it the next morning. All he wanted to do was to get rid of the rats."

"Exactly!" purred Mr. Winifred Willowby.

And he lit another cigarette.

THE END



The Strange Flight of Richard Clayton

By ROBERT BLOCH

A lifetime in a single, tiny cell. Terrible indeed was the prospect to a living, breathing, thinking individual. A no more monotonous, terrifying prison could possibly be conceived. With no pardon in the offing; no release to be waiting as a reward. But regardless, the breathtaking achievement would be its own reward and well worth the price.

Amazing Stories, March 1939

RICHARD CLAYTON braced himself so that he stood like a diver waiting to plunge from a high board into the blue. In truth he was a diver. A silver space-ship was his board, and he meant to plunge not down, but up into the blue sky. Nor was it a matter of twenty or thirty feet he meant to go—instead, he was plunging millions of miles.

With a deep breath, the pudgy, moon-faced scientist raised his hands to the cold steel lever, closed his eyes, and jerked. The switch moved downward.

For a moment nothing happened.

Then a sudden jerk threw Clayton to the floor. The *Future* was moving!

The pinions of a bird beating as it soars into the sky—the wings of a moth thrumming in flight—the quivering behind leaping muscles; of these things the shock was made.

The space-ship *Future* vibrated madly. It rocked from side to side, and a humming shook the steel walls. Richard Clayton lay dazed as a high-pitched droning arose within the vessel. He rose to his feet, rubbing a bruised forehead, and lurched to his tiny bunk. The ship was moving, yet the terrible vibration did not abate. He glanced at the controls and then swore softly.

"Good God! The panel is shattered!"

It was true. The instrument board had been broken by the shock. The cracked glass had

fallen to the floor, and the dials swung aimlessly on the bare face of the panel.

Clayton sat there in despair. This was a major tragedy. His thoughts flashed back thirty years to the time when he, a boy of ten, had been inspired by Lindbergh's flight. He recalled his studies; how he had utilized the money of his millionaire father to perfect a flying machine which would cross Space itself.

For years Richard Clayton had worked and dreamed and planned. He studied the Russians and their rockets, organized the Clayton Foundation and hired mechanics, mathematicians, astronomers, engineers to labor with him.

Then there had been the discovery of atomic propulsion, and the building of the *Future*. The *Future* was a shell of steel and duraluminum, windowless and insulated by a guarded process. In the tiny cabin were oxygen tanks, stores of food tablets, energizing chemicals, air-conditioning arrangements — and space for a man to walk six paces.

It was a small steel cell; but in it Richard Clayton meant to realize his ambitions. Aided in his soaring by rockets to get him past the gravitational pull of Earth, then flying by means of the atomic-discharge propulsion, Clayton meant to reach Mars and return.

It would take ten years to reach Mars; ten years to return,

for the grounding of the vessel would set off additional rocket-discharges. A thousand miles an hour—not an imaginative “speed of light” journey, but a slow, grim voyage, scientifically accurate. The panels were set, and Clayton had no need to guide his vessel. It was automatic.

“But now what?” Clayton said, staring at the shattered glass. He had lost touch with the outer world. He would be unable to read his progress on the board, unable to judge time and distance and direction. He would sit here for ten, twenty years—all alone in a tiny cabin. There had been no room for books or paper or games to amuse him. He was a prisoner in the black void of Space.

The earth had already faded far below him; soon it would be a ball of burning green fire smaller than the ball of red fire ahead—the fire of Mars.

Crowds had swarmed the field to watch him take off; his assistant Jerry Chase had controlled them. Clayton pictured them watching his shining steel cylinder emerging from the gaseous smoke of the rockets and rushing like a bullet into the sky. Then his cylinder would have faded away into the blue and the crowds would leave for home and forget.

But he remained, here in the ship—for ten, for twenty years.

Yes, he remained, but when would the vibration stop? The shuddering of the walls and floor about him was awful to endure;

he and the experts had not counted on this problem. Tremors wrenched through his aching head. What if they didn't cease, if they endured through the entire voyage? How long could he keep from going mad?

He could think. Clayton lay on his bunk and remembered—reviewed every tiny detail of his life from birth to the present. And soon he had exhausted all memory in a pitifully short time. Then he felt the horrible throbbing all about him.

“I can exercise,” he said aloud, and paced the floor; six steps forward, six back. And he tired of that. Sighing, Clayton went to the food-stores in the cabinet and downed his capsules. “I can't even spend any time eating,” he wryly observed. “A swallow and it's over.”

The throbbing erased the grin from his face. It was maddening. He lay down once more in the lurching bunk; switched on oxygen in the close air. He would sleep, then; sleep if this damned thrumming would permit. He endured the horrid clanking that groaned all through the silence; switching off the lights. His thoughts turned to his strange position; a prisoner in Space. Outside the burning planets wheeled, and stars whizzed in the inky blackness of spatial Nothingness. Here he lay safe and snug in a vibrating chamber; safe from the freezing cold. If only the awful jarring would stop!

Still, it had its compensations.

There would be no newspapers on the voyage to torment him with accounts of man's inhumanity to man; no silly radio or television programs to annoy him. Only this cursed, omnipresent vibration . . .

Clayton slept, hurtling through Space.

It was not daylight when he awoke. There was no daylight and no night. There was simply himself and the ship in Space. And the vibration was steady, nerve-wrecking in its insistent beating against the brain. Clayton's legs trembled as he reached the cabinet and ate his pills.

Then, he sat down and began to endure. A terrific feeling of loneliness was beginning to assail him. He was so utterly detached here—cut off from everything. There was nothing to do. It was worse than being a prisoner in solitary confinement; at least they have larger cells, the sight of the sun, a breath of fresh air, and the glimpse of an occasional face.

Clayton had thought himself a misanthrope, a recluse. Now he longed for the sight of another's face. As the hours passed he got queer ideas. He wanted to see Life, in some form—he would have given a fortune for the company of even an insect in his soaring dungeon. The sound of a human voice would be heaven. He was so *alone*.

Nothing to do but endure the jerking, pace the floor, eat his pills, try to sleep. Nothing to

think about. Clayton began to long for the time when his nails needed cutting; he could stretch out the task for hours.

He examined his clothes intently, stared for hours in the little mirror at his face. He memorized his body, scrutinized every article in the cabin of the *Future*.

And still he was not tired enough to sleep again.

He had a throbbing headache constantly. At length he managed to close his eyes and drift off into another slumber, broken by shocks which startled him into waking.

When finally he arose and switched on the light, together with more oxygen, he made a horrible discovery.

*He had lost his time-sense.**

"Time is relative," they had always told him. Now he realized the truth. He had nothing to measure time by—no watch, no glimpse of the sun or moon or stars, and no regular activities. How long had he been on this voyage? Try as he might, he could not remember.

Had he eaten every six hours? Or every ten? Or every twenty?

*Einstein has taught us that everything is relative, and time most of all has this peculiarity. We tell time by relative means, comparing the motion of one body in relation to another. In our case, the revolution of the earth on its axis, and around the sun provides us with a time sense. Remove this visible means of telling time, in improvised units, and its very meaning becomes unintelligible. In short, time becomes non-existent. We have nothing to compare. Thus, it was inevitable that Richard Clayton should lose his ability to tell what time it was, or even at what rate time was passing. Minutes seem hours to one who is trying mentally to compute time.—Ed.

Had he slept once each day? Once every three or four days? How often had he walked the floor?

With no instruments to place himself he was at a total loss. He ate his pills in a bemused fashion, trying to think above the shuddering which filled his senses.

This was awful. If he lost track of Time he might soon lose consciousness of identity himself. He would go mad here in the space-ship as it plunged through the void to planets beyond. Alone, tormented in a tiny cell, he had to cling to something. What was Time?

He no longer wanted to think about it. He no longer wanted to think about anything. He had to forget the world he left, or memory would drive him frantic.

"I'm afraid," he whispered. "Afraid of being alone in the darkness. I may have passed the moon. I may be a million miles away from Earth by now—or ten million."

Then Clayton realized that he was talking to himself. That way was madness. But he couldn't stop, any more than he could stop the horrible jarring vibration all around him.

"I'm afraid," he whispered in a voice that sounded hollow in the tiny humming room. "I'm afraid. *What time is it?*"

He fell asleep, still whispering, and Time rushed on.

Clayton awoke with fresh courage. He had lost his grip, he

reasoned. Outside pressure, however equalized, had affected his nerves. The oxygen might have made him giddy, and the pill diet was bad. But now the weakness had passed. He smiled, walked the floor.

Then the thoughts came again. What day was it? How many weeks since he had started? Maybe it was months already; a year, two years. Everything of Earth seemed far away; almost part of a dream. He now felt closer to Mars than to Earth; he began to anticipate now instead of looking back.

For a while everything had been mechanical. He switched light on and off when needed, ate pills by habit, paced the floor without thinking, unconsciously tended the air system, slept without knowing when or why.

Richard Clayton gradually forgot about his body and the surroundings. The lurching buzz in his brain became a part of him; an aching part which told that he was whizzing through Space in a silver bullet. But it meant nothing more, for Clayton no longer talked to himself. He forgot himself and dreamed only of Mars ahead. Every throb of the vessel hummed "Mars—Mars—Mars."

A wonderful thing happened. He landed. The ship nosed down, trembling. It eased gently onto the grassy sward of the red planet. For a long time Clayton had felt the pull of alien gravity, knew that automatic adjustments of his vessel were dimin-

ishing the atomic discharges and using the natural gravitational pull of Mars itself.

Now the ship landed, and Clayton had opened the door. He broke the seals and stepped out. He bounded lightly to the purple grass. His body felt free, buoyant. There was fresh air, and the sunlight seemed stronger, more intense, although clouds veiled the glowing globe.

Far away stood the forests, the green forests with the purple growth on the lushly-rearing trees. Clayton left the ship and approached the cool grove. The first tree had boughs that bent to the ground in two limbs.

Limbs—limbs they were! Two green arms reached out. Clawing branches grasped him and lifted him upward. Cold coils, slimy as a serpent's, held him tightly as he was pressed against the dark tree-trunk. And now he was staring into the purple growths set in the leaves.

The purple growths were—heads.

Evil, purple faces stared at him with rotting eyes like dead toadstools. Each face was wrinkled like a purple cauliflower, but beneath the pulpy mass was a great mouth. Every purple face had a purple mouth and each purple mouth opened to drip blood. Now the tree-arms pressed him closer to the cold, writhing trunk, and one of the purple faces—a woman's face—was moving up to kiss him.

The kiss of a vampire! Blood shone scarlet on the moving sen-

suous lips that bore down on his own. He struggled, but the limbs held him fast and the kiss came, cold as death. The icy flame of it seared through his being and his sense drowned.

Then Clayton awoke and knew. It was a dream. His body was bathed with moisture. It made him aware of his body. He tottered to the mirror.

A single glance sent him reeling back in horror. Was this too a part of his dream?

Gazing into the mirror, Clayton saw reflected the face of an aging man. The features were heavily bearded, and they were lined and wrinkled, the once puffy cheeks were sunken. The eyes were the worst—Clayton did not recognize his own eyes any more. Red and deep-set in bony sockets, they burned out in a wild stare of horror. He touched his face, saw the blue-veined hand rise in the mirror and run through graying hair.

Partial Time-sense returned. He had been here for years. Years! He was growing old!

Of course the unnatural life would age him more rapidly, but still a great interval must have passed. Clayton knew that he must soon reach the end of his journey. He wanted to reach it before he had any more dreams. From now on, sanity and physical reserve must battle against the unseen enemy of Time. He staggered back to his bunk, as trembling like a metallic flying monster, the *Future* rushed on

in the blackness of interstellar Space.

They were hammering outside the vessel now; their iron arms were breaking the door. The black metal monsters lumbered in with iron tread. Their stern, steel-cut faces were expressionless as they grasped Clayton on either side and pulled him out. Across the iron platform they dragged him, walking stiffly with clicking feet that clanged against the metal. The great steel shafts rose in silvery spires all about, and into the iron tower they took him. Up the stairs—clang, clang, clang pounded the great metal feet.

And the iron stairs wound round endlessly; yet still they toiled. Their faces were set, and iron does not sweat. They never tired, though Clayton was a panting wreck ere they reached the dome and threw him before the Presence in the tower room. The metallic voice buzzed, mechanically, like a broken phonograph record.

"We - found - him - in - a - bird - oh - Master."

"He - is - made - of - soft - ness."

"He - is - alive - in - some - strange - way."

"An - an - i - mal."

And then the booming voice from the center of the tower floor.

"I hunger."

Rising on an iron throne from the floor, the Master. Just a great iron trap, with steel jaws

like those on a steam-shovel. The jaws clicked open, and the horrid teeth gleamed. A voice came from the depths.

"Feed me."

They threw Clayton forward in iron arms, and he fell into the trap-jaws of the monster. The jaws closed, champing with relish on human flesh . . .

Clayton woke screaming. The mirror gleamed as his trembling hands found the light-switch. He stared into the face of an aging man with almost white hair. Clayton was growing old. And he wondered if his brain would hold out.

Eat pills, walk cabin, listen to the throbbing, put on air, lie on bunk. That was all, now. And the rest—waiting. Waiting, in a humming torture-chamber, for hours, days, years, centuries, untold eons.

In every eon, a dream. He landed on Mars and the ghosts came coiling out of a gray fog. They were shapes in the fog, like slimy ectoplasm, and he saw through them. But they coiled and came, and their voices were faint whispers in his soul.

"Here is Life," they whispered. "We whose souls have crossed the Void in death have waited for Life to feast on. Let us take our feasting now."

And they smothered him under gray blankets, and sucked with gray, prickling mouths at his blood. . . .

Again he landed on the planet and there was nothing. Absolute-

ly nothing. The ground was bare and it stretched off into horizons of nothingness. There was no sky nor sun, merely the ground; endless in all directions.

He set foot on it, cautiously. He sank down into nothingness. The nothingness was throbbing now, like the ship throbbed, and it was engulfing him. He was falling into a deep pit without sides, and the oblivion closed all about him . . .

Clayton dreamed this one standing up. He opened his eyes before the mirror. His legs were weak and he steadied himself with hands that shook with age. He looked at the face in the glass—the face of a man of seventy.

"God!" he muttered. It was his own voice—the first sound he had heard in how long? How many years? For how long had he heard nothing above the hellish vibrations of this ship? How far had the *Future* gone? He was old already.

A horrid thought bit into his brain. Perhaps something had gone wrong. Maybe the calculations were at fault and he was moving into Space too slowly. He might never reach Mars. Then again—and it was a dreadful possibility—he had passed Mars, missed the carefully charted orbit of the planet. Now he was plumping on into empty voids beyond.

He swallowed his pills and lay down in the bunk. He felt a little calmer now; he had to be. For the first time in ages he remembered Earth.

Suppose it had been destroyed? Invaded by war or pestilence or disease while he was gone? Or meteors had struck it, some dying star had flamed death upon it from maddened heavens. Ghastly notions assailed him—what if Invaders crossed Space to conquer Earth, just as he now crossed to Mars?

But no sense in worrying about *that*. The problem was reaching his own goal. Helpless, he had to wait; maintain life and sanity long enough to achieve his aims. In the vibrating horror of his cell, Clayton took a mighty resolve with all his waning strength. He *would* live, and when he landed he would see Mars. Whether or not he died on the long voyage home, he would exist only until his goal was reached. He would fight against dreams from this moment on. No means of telling Time—only a long daze, and the humming of this infernal space-ship. But he'd live.

There were voices coming now, from outside the ship. Ghosts howled in the dark depths of Space. Visions of monsters and dreams of torment came, and Clayton repulsed them all. Every hour or day or year—he no longer knew which—Clayton managed to stagger to the mirror. And always it showed that he was aging rapidly. His snow-white hair and wrinkled countenance hinted at incredible senility. But Clayton lived. He was too old to think any longer, and

too weary. He merely lived in the droning of the ship.

At first he didn't realize. He was lying on his bunk and his rheumy eyes were closed in stupor. Suddenly he became aware that the lurching had stopped. Clayton knew he must be dreaming again. He drew himself up painfully, rubbed his eyes. No—the *Future* was still. It had landed!

He was trembling uncontrollably. Years of vibration had done this; years of isolation with only his crazed thoughts for company. He could scarcely stand.

But this was the moment. This was what he had waited for for ten long years. No, it must have been many more years. But he could see Mars. He had made it—done the impossible!

It was an inspiring thought. But somehow, Richard Clayton would have given it all up if he could only have learned what time it was, and heard it from a human voice.

He staggered to the door—the long-sealed door. There was a lever here.

His aged heart pumped with excitement as he pulled the lever upward. The door opened—sunlight crept through—air rushed in—the light made him blink and the air wheezed in his lungs—his feet were moving into the blazing light—

Clayton fell forward into the arms of Jerry Chase.

Clayton didn't know it was Jerry Chase. He didn't know anything any longer. It had been too much.

Chase was staring down at the feeble body in his arms.

"Where's Mr. Clayton?" he murmured. "Who are you?" He stared at the aged, wrinkled face.

"Why—it's Clayton!" he breathed. "Mr. Clayton, what's wrong, sir? The atomic discharges failed when you started the ship, and all that happened was that they kept blasting. The ship never left the earth, but the violence of the discharges kept us from reaching you until now. We couldn't get to the *Future* until they stopped. Just a little while ago the ship finished shuddering, but we've been watching night and day. What happened to you, sir?"

The faded blue eyes of Richard Clayton opened. His mouth twitched as he faintly whispered.

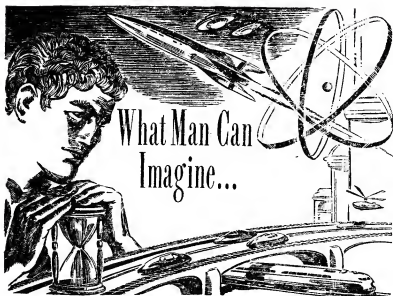
"I—I lost track of Time. How—how long was I in the *Future*?"

Jerry Chase's face was grave as he stared again at the old man and answered, softly.

"Just one week."

And as Richard Clayton's eyes glazed in death, the long voyage ended.

THE END



By SAM MOSKOWITZ

The purpose of science fiction is to entertain readers of the genre by an appeal to their imaginations: to project the world of today into the world of tomorrow. During the past thirty years, the fiction appearing in the pages of Amazing Stories has described in detail and in operation a host of incredible inventions and theories. At the time of publication, these wonders were lightly passed over as being little more than the substance of dreams. . . .

Would you like to know which of those incredible inventions are making life easier and safer for you today? Here they are—exactly as predicted long ago in the pages of Amazing Stories. . . .

THE slogan "Extravagant Fiction Today . . . Cold Fact Tomorrow," long appeared on the editorial page of *Amazing Stories*. It was intended to give pause to skeptics inclined to believe that the stories ranged too far beyond the limits of probability.

Today, thirty years after the appearance of the first issue of *Amazing Stories*, dated April, 1926, even the slogan has proved prophetic!

The total number of scientific ideas originally introduced as fiction in *Amazing Stories*, and which have since become realities in the brief three decades of the magazine's existence, defy cataloguing. It would take careful study of the entire files of the magazine by an expert team of scientists and technicians in every field of scientific endeavor to unearth them all.

Few important inventions or discoveries of recent times have been overlooked. Certainly none of the important ones. If the science fiction authors erred at all, they usually erred in time. Science caught up with fiction much faster than anticipated.

On the subject of atomic energy, *Amazing Stories* and its companion *Amazing Stories Quarterly*, deserve to become sanctified scripts in every laboratory working on nuclear energy. Not only for the accuracy of their predictions but for the precise details of functioning and application.

One of the earliest uses of

atomic energy in a fiction story may be credited to Garrett P. Serviss. These appeared in Serviss's novel "The Columbus of Space," originally published in 1909 and later serialized in *Amazing Stories* beginning with the August, 1926 number. Serviss, a world-famous astronomer during his life time, preceded H. G. Wells in the fictional use of atomic energy, as delineated in "The World Set Free," by some five years.



"The inter-atomic energy. I've got it under control," Edmund Stonewall tells his friends in "The Columbus of Space."

"The deuce you have," his friend Jack replies.

"I've solved the mystery of atoms," Stonewall confirms. "... I've got unlimited power at my command . . . We have known that it was there at least ever since radioactivity was discovered. . . . I am able to control it as perfectly as if it were steam from a boiler, or an electric current from a dynamo."

The popular Edward E. Smith, Ph.D. used atomic energy as

the basic power to drive his *Skylark I* across the galaxy. In the introduction to "The Skylark of Space," which first appeared in *Amazing Stories* beginning with the August, 1928, issue, the editor said: "We know so little of intra-atomic forces that this story, improbable as it will appear in spots, will read commonplace years hence, when we have atomic engines, and when we have solved the riddle of the atom."

In this novel, Smith accurately guessed the range of deadliness of initial atomic explosions. An experimental atomic blast completely annihilates everything within a two-mile radius—this, almost precisely, describes the force of the bombs dropped on Hiroshima and Nagasaki.

The actual term, "atomic bomb," was used by Kenneth Gilbert, in his story "The Winged Doom," *Amazing Stories*, October, 1927. In that story, the nations banded together in an attempt to outlaw the deadly weapon.

Uranite, a derivative of Uranium, was predicted as the metal source for atomic bombs by Capt. S. P. Meek, U. S. A., in his story "The Red Peril," *Amazing Stories*, September, 1929. The United States was seen as being forced to use them in a hassel with red Russia!

As if these surmises weren't close enough, *Amazing Stories'* authors went still further. Stanton A. Coblenz in "The Sunken World," *Amazing Stories Quar-*

terly, Summer, 1928, utilized atomic submarines as the last word in undersea efficiency. He also introduced atomic powered surface ships, one of which is in the process of being constructed at the writing.

An almost uncannily accurate discription of the atomic blast is given by P. Schuyler Miller in his story "The Atom Smasher," *Amazing Stories*, January, 1934. He described it as:

"... a thin shaft of vivid, violet flame, spreading into a fan of flickering electric fires, then gathering suddenly into a dazzling blue-white ball...then only flickering crimson shadows scuttled among the rocks."

Scarcely content with that, Miller decides that an atomic explosion would be necessary to trigger off a hydrogen bomb, so a little further on in the same story:

"Out of the holocaust at the valley's heart stabbed the cruel rays of chaos, battering at molecule and atom, crushing them, shattering them, bursting their crowded nuclei and freeing raw, newborn 'hydrogen' that in an instant flamed into fierce crimson fire, burning in great leaping tongues from every crag."

Nor did authors completely neglect by-products. In "Rays and Men," *Amazing Stories Quarterly*, Summer, 1929, Miles J. Breuer, M.D., had doctors in his hypothetical future civilization use a chemical remarkably like radioactive isotopes in its action, for the detection and

treatment of certain types of disease.

Quite understandably, the editors of *Amazing Stories* had grown somewhat blasé about atomic energy by 1939. In the October number of that year, they published in full color on their back-cover, a painting of an atomic power plant, with a cut-out section showing how it worked! In a special article covering the back-cover, *Amazing Stories* predicted dire consequences if anyone used these plants for making atomic bombs!



Rockets did not become the vogue in science fiction until Hugo Gernsback, then publisher of *Amazing Stories*, dictated in his editorial "Interplanetary Travel," *Amazing Stories*, February, 1927, that only the rocket was scientifically plausible as a means of space-flight and that most other ideas were fairy tales. "The Green Splotches," by Pulitzer Prize winner T. S. Stripling, was the earliest story *Amazing Stories* published using rockets as a

means of space travel. That story, published in the March, 1927 issue, used as its source of power atomic energy derived from radium.

Unquestionably, the man who insisted on the type of scientific content in science fiction stories that resulted in such a high percentage of accurate predictions was Hugo Gernsback, founder of *Amazing Stories*. In record of numbers of accurate predictions combined with plausible scientific explanations, Hugo Gernsback is everywhere and all other science fiction writers nowhere.

In one fabulous novel alone, "Ralph 124C41 Plus," Gernsback made so many accurate scientific predictions that detailing them all would fill this entire article. Though originally published in 1911, when reprinted in *Amazing Stories Quarterly*, Winter, 1929, so few of the predictions had yet been realized that Gernsback cautioned readers against skepticism in a special editorial.

The record since that time is unbelievable.

In that novel Gernsback not only predicted radar, but devoted a half-page of scientific explanation of the theory, which has since proven to be essentially accurate. He stated further that the invention would have to wait upon the vacuum tube, which was not perfected at the time the novel was written and *then proceeded to publish a diagram with the story showing how the unit would work.*

The word "television," used in the novel, was coined by Gernsback.

The best that can be done is merely to list a few of the better-known scientific inventions by "Ralph 124C41 Plus." They include a device for teaching students while asleep which Gernsback called the "Hypnobioscope." This device, now in the early stages of development, is sold under the trade name of Dormiphone. The use of solar energy for heat and power came into the news in 1951 when Levi Yissar, announced that several such units were successfully operating in Israel. Still further, Gernsback's world of the future had fluorescent lighting, plastics, the radio directional-finder, tape recorders, rustproof steel, synthetic fabrics (such as rayon, nylon, orlon, etc.), liquid fertilizer, juke boxes and automatic music, micro-film, tin foil, night baseball, acquacades, loud speakers and innumerable other items unknown at the time the novel was published.

Though flying saucers have not yet been proved to exist, Hugo Gernsback's Martians in "Baron Munchausen's Scientific Adventures, No. 6: Munchausen Lands on Mars," used them exclusively. This story, which appeared in *Amazing Stories*, April, 1928, had Frank R. Paul carefully and incontrovertibly draw several illustrations of the saucers which are precisely like those described by several thousand people who have reported seeing them. Of

special interest is the fact that the air force recently announced that it actually has a completely saucer-shaped plane in production.

In 1955, flying platforms, a device not unlike a saucer and guided by a single man, were spotlighted on the cover of *Colliers* magazine. A machine, similar to this new invention, appears in Edmond Hamilton's story "Locked World," *Amazing Stories Quarterly*, Spring, 1929. Again Frank R. Paul has carefully visualized and drawn the contraption.

Lie detectors first began to attract attention in the early Thirties. Edwin Balmer and William B. McHarg in the scientific detective story "The Man Higher Up," *Amazing Stories*, December, 1926, used lie detectors and correctly attributed its results to accurate measurement of blood pressure, breathing and pulse. As in the case of atomic power plants and flying saucers, *Amazing Stories* obligingly presented a close-up of the machine to aid future researchers. The authors continued to use the lie detector in their stories until its appearance removed it from the realm of science fiction.

Stories of human heads, severed from their bodies and mechanically kept alive, used to be one of the more gruesome basic themes of science fiction. They were common up until the August, 1928th issue of *Amazing Stories*, which carried "The Head," by Joe Kleir. That num-

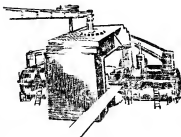
ber of *Amazing Stories* appeared on the stands June 10th. Eleven days later, on June 21st, The New York Times carried a picture and story of the decapitated head of a dog kept alive for four hours by Prof. Chiculin of The Moscow Brain Institute. The story reported that the dog's head attempted to bark, eat, and responded to stimuli.

The mechanical heart, which was one of the devices used to keep the dog's head alive has since frequently been featured in news of heart operations. The blood pump and purifier formed an integral part of Walter Burch's story "The Man Who Was," *Amazing Stories*, May, 1927.

Almost lost in the fanfare surrounding the announcement of the atomic bomb, was an item on the front page of The New York Times, in 1945, about California experimenters who had bombarded a block of carbon with a tremendous amount of energy, thereby succeeding in adding an infinitesimal, but measurable, amount of matter to its mass! Proving once and for all the theory that energy and matter were different manifestations of the same thing and that a matter transmitter was theoretically possible.

Breaking down matter into energy, transmitting it through the air and reforming the energy into matter was the theme of "Radio Mates," by Benjamin Witwer, *Amazing Stories*, July, 1927. Since that time the idea of

matter transmitters has been one of the more popular and seemingly most fantastic ideas in science fiction.



All of us are familiar with the famous comic-strip character Buck Rogers. Buck Rogers was created by Philip Francis Nowlan in a novelette titled "Armageddon—2419 A. D." and appeared for the first time anywhere in *Amazing Stories*, August, 1928. A score of prophetic surmises were made in that story, the most prominent of which were the Bazooka, a rocket-gun for stopping tanks; the jet plane for airwar; the use of the walkie-talkie radio in military operations and infra-red ray gun sights, such as those used by the U. S. snipers at night on Guadalcanal. All of these inventions came into use during the second world war.

He further predicted a coalition of the Russian Reds with the Chinese for world conquest and in a sequel, "The Air-Lords of Han," *Amazing Stories*, March, 1929, detailed the use of brainwashing by the Reds!

Not satisfied with that he took

the trouble to note the idea of "pay" television; radio controlled TV projectiles, such as those used a few years ago in Korea and the prediction that skilled laborers would eventually receive more pay than the rank and file white-collar workers.

When the Hudson and Manhattan Tubes installed a moving sidewalk in one of their New Jersey stations, the first in the world, there was much to-do concerning it. Old-time readers of *Amazing Stories*, May, 1928, merely yawned, remembering such moving walks in "A Visitor From the Twentieth Century," by Harold Donitz.

Vitamins and health-food concentrates in capsules are almost a fetish with a good part of the population today. As early as 1930, the closest thing to them was fish oil with a high concentration of vitamins A and D. Stanton A. Coblenz in "After Twelve Thousand Years," *Amazing Stories Quarterly*, Spring, 1929, foresaw the processing and general usage of the complete range of vitamins in capsule form. As a bonus, in that story, he anticipated automobiles with engines in the rear.

Scheduled air-flights across the Atlantic and the Pacific are taken for granted today. This was not the case in Spring, 1928, when "A Modern Atlantis" by Frederick Arthur Hodges, *Amazing Stories Quarterly*, predicted flights across the Atlantic. Harold Donitz in the previously noted "A Visitor From the

Twentieth Century," set the flying time as fifteen hours to Paris and ten hours to San Francisco. These almost approximate today's schedules.

When the U. S. Airforce announced in 1952 that man had flown over one-thousand miles an hour in a plane, they stated that the record-breaking plane had been launched in the air from a larger one. The method of launching small planes from larger ones was included as part of "The King and the Pawn" by Sven Anderton, Fall-Winter, 1932, *Amazing Stories Quarterly*.

The recent invention of transistors has flooded the market with pocket-size radios. They were already the vogue in the future world of "Electro-Episodes in A. D. 2025" by E. D. Skinner, *Amazing Stories*, August, 1927.



Automatic dish washers and automatic shoe shining machines came in for a lot of horse-play in "Hick's Inventions With a Kick: The Automatic Apartment," by Henry Hugh Simmons, *Amazing*

Stories, April, 1927. The first the American public knew of the existence of those devices was the early Forties. Today they are part of our civilization.

New theories, too, are promulgated in science fiction. Metal magnets have always been common, but the idea of chemicals that would draw like a magnet was pretty far-fetched when *Amazing Stories* published "The Chemical Magnet" by Victor Thaddeus, August, 1927. Since that time, oxygen has been liquified and any chemistry student knows that a copper wire, wrapped around a tube of liquid oxygen, will cause the chemical to act as a magnet when a current is passed through the wire.

Nor has the field of psychology and sociology been ignored in old-time predictions.

A civilization run completely by automation was visualized by Miles J. Bruer, M.D. in "Paradise and Iron," *Amazing Stories Quarterly*, Summer, 1930. Featured in the novel was an automatic "thinking machine" that dwarfed Univac in its potential.

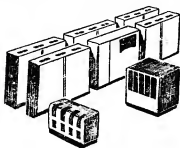
Teaching through the use of closed-circuit or special channel television is much in the news today. It was posed as a reality in "John Jones' Dollar," by Harry Stephen Keeler, *Amazing Stories*, April, 1927.

One-room efficiency apartments, rents of \$100 a room or more, rent control, high living costs that would force many wives to work, were all predicted by David H. Keller in "Serv-

ice First," *Amazing Stories Quarterly*, Winter, 1931.

Even more startling was "White Collars," *Amazing Stories Quarterly*, Summer, 1928, where Keller said the day would come when giant corporations would think nothing of making quarter-of-a-billion dollar gifts to ease their taxes. The Ford Foundation's half-billion dollar give-away in 1955 found Dr. Keller underestimating the future.

In between his sociological conjectures, Dr. Keller, in the first-named story, visualized the use of glass in construction of offices and homes. In his story, glass could be made malleable, flexible and ductile. They do it today!



The sharp increase in mental disorders and the rise of psychiatrists in future America was underlined by Harl Vincent in "Venus Liberated," *Amazing Stories Quarterly*, Summer, 1928. At that time psychiatrists were a rarity.

Most states have some form of automobile inspection today. None had it when George McLoiard dramatized its need in his

story "The Terror of the Streets," *Amazing Stories*, April, 1929.



The Hershey Chocolate people built a completely windowless factory in Hershey, Pennsylvania, in the late thirties. The theory was that workers would be completely protected from outside noises, changes in light or temperature and that the interior of the plant would be scientifically lighted and air-conditioned. Since that time many other industries have built windowless plants. It was forecast in "Faster Than Light," by Harl Vincent, *Amazing Stories Quarterly*, Fall-Winter, 1932.

"Extravagant Fiction Today

... Cold Fact Tomorrow." *Amazing Stories* has justified that slogan a thousand times over. Not with near-misses or with questionable inferences, but with direct hits that rang a bell too clearly to be misinterpreted. Every year that passes will see the score grow greater. A hundred years from today, what will the world be like? The blueprints can be drawn from the past thirty years of *Amazing Stories*.

THE END

Science fiction editor, author, anthropologist, agent, critic, collector, and instructor of science fiction writing at CCNY, Sam Moskowitz is generally regarded as the authority on science fiction and its history. This, together with the fact that he owns and has read the complete file of Amazing Stories from its inception, makes him singularly qualified for the task of selecting Amazing Stories' predictions of yesterday that have become realities today.—ED.

DIAMONDS . . .

By CHARLES RECOUR

The diamond is the purest form of crystallized carbon. In the diamond, every carbon atom is symmetrically surrounded by four other carbon atoms, arranged at the corners of a tetrahedron in such manner that the whole crystal is one continuous molecule, thus explaining its great density and hardness. A perfect diamond is quite transparent and colorless, although it possesses that marvellous "fire" which we see oscillating with every movement, but most precious stones are tinged with gray, yellow, or brown. It is due to the high qualities of refraction and dispersion of light that diamonds give off the beautiful flashes of blue, gold, and red.

The Sword and the Atopen

By TAYLOR H. GREENFIELD

The conversion of light into electricity by spectrum is an interesting possibility. The idea of using foreign proteins on the human system to repel enemies, is also interesting. Do you get it? We didn't either until we read the story. Read the yarn and you'll get it too.

ALTHOUGH Divine intervention in human affairs passed into the realm of the mythical toward the end of the twentieth or at the dawn of the twenty-first century, one is almost inclined to give thanks to the Supernatural for the marvelous efficacy of Dr. Rutledge's discovery and strategem which so recently freed us from the Oriental menace.

A year ago only the Mississippi and the most severe winter in many generations was staying the complete invasion of the United States. In an unbelievably secret manner our enemies had for five decades been developing a scientific offensive

against which our laboratories could not in a short interval protect us. The vast and fundamental discoveries made during the past hundred years by the Orientals (and now the heritage of the whole world) can only be compared to the Industrial Revolution of the nineteenth century. Without warning, through the discovery of the cause of gravitation, the Mongols practically lifted their Nangsi metal transports (which were built of a material combining the lightness of aluminum with the strength and hardness of steel) out of the sea; and in five days skimmed across the surface of the Pacific. The whole West lay at their



They were planning details of the final campaign.

mercy, though we know with what gallantry their forces were held in check from summer until winter, when the enemy had reached the Mississippi.

Of course, one of the surprises which the Orientals had not counted on was the providential inspiration of Dr. Mernick of the Hopkins, who devised the now famous Mernickian transformer by which light from the sun, received through a series of grates, is stepped from the wavelengths of light into those of electricity. This gave us a sudden limitless source of power on which the enemy had not counted. It virtually lifted our forces off the ground and made them almost the equal of an enemy who had succeeded in neutralizing the gravitational drag.

The final and most disastrous card our subtle enemies played was dealt on the prairies in Nebraska. They themselves were afraid of their weapon and wanted plenty of space to try it in. I was personally present at its debut, being at the time in General Sanford's stationary observing helicopter which, through the agency of the power supplied by a Mernickian transformer, hung motionless as a bee fifteen thousand feet in the air. Only the treble hum of the air turbine could be heard faintly through the transparent walls of the observatory constructed of the annealed clersite, which has taken the place of the unsatisfactory glass used by our forefathers. The toughness and tensile

strength of this element, comparable to the best chrome steels, combined with its crystal clarity, made an ideal warfare observation unit. It was practically invisible and likewise quite bullet proof. The great strength of the material in our machine, and the rapidity with which we could rise and fall, indeed made us difficult prey. In addition to this we were hanging behind the great electric field that the Radio Defensive Corps had spread like a screen before our forces, greatly to the embarrassment of the enemy in the use of his anti-gravitational machines.

As we stood at our posts, we saw the great degravitated bombs hurtled against our lines suddenly come into contact with the fan-like electric field, somersault a few times and fall. At the edge of the electric screen the ground was excavated to an enormous depth by the bursting of these intercepted degravitated bombs, most of which had been projected from stationary batteries three or four hundred miles behind the enemy lines. The local batteries bombarding with the old fashioned Sangsi steel shell were still effective. On the whole, however, from our own observation of the local front and from the television reports we were constantly receiving, we judged that the American and Allied Caucasian forces were more than holding their own.

General Sanford, the Chief of the Signal Corps, who stood by

my side, grasped my arm, and pointed to the west. Everyone crowded to our side in excitement. Before we could gasp our amazement, the incandescent spot which our Chief had mutely indicated on the distant horizon, zoomed in a blazing arc across our zenith and plunged into the terrain of the English forces which were occupying the little town of Ogallala about six miles to our south. We held our breath. What next?

Only a faint throbbing seemed to pulse in the air above the spot where the missile sank. I was about to pronounce the diagnosis of "a dud," when someone cried, "My God, General, they've turned hell loose this time!" The whole atmosphere for a quarter of a mile radius about the fatal bomb quivered as over a heated griddle. Even as we remarked this, the area began to glow cherry red. A deafening thunder assaulted our ears when to our horror the earth on which had stood the now burning town of Ogallala, rose a gigantic incandescent ball and shot like a meteor into the heavens. Our car was a feather tossed in the ensuing hurricane, but even while we bobbed back and forth there was an ear-splitting explosion as the land that was once an American village burst into a blinding blue flare of hydrogen flame twenty-five miles above us.

The swaying of the car gradually subsided in the tortured atmosphere, and a gentle rain began to fall. Ogallala had been

chemically "stepped down" into the most primitive element, combined with the oxygen above and was condensing back to earth again as a few globules of H_2O . That day was a sort of crisis; the enemy had discovered and turned upon us the power of atomic degeneration! And I, as assistant chief chemist of the American Army, felt my heart become heavy within me as I soared back to the Central Laboratory.

Even as I watched the advent of the electronic detonator two days previously the inspiration had come to me. What had happened to the doomed Nebraskan town had been so obvious. Through some unexplained agency discovered by the Orientals, the electronic restraint of the normally stable elements had been removed. In a brief time Ogallala had degenerated through all the steps of the periodic table until it became hydrogen, at which point, owing to the terrific air current and incandescent heat, it had recombined with the oxygen of the air as simple molecules of water.

I thought I had a clue as to how it had been accomplished. The Central Chemical Laboratory was the focus of feverish excitement. The air was tense with the expectancy of tremendous things. Every scientist there felt that we were on the verge of discovering the principle of the Mongol's new weapon, "Give us time!" "Time" was

the plea we sent daily to the Defense Headquarters. "Only six weeks more, only a month," we begged, "and then we'll make a boomerang out of the enemy's invention." Anderson, Mahaffey, Dr. Spritz—all the great physicists and chemists of the present age—labored at my side endeavoring to trick Nature into giving us that saving secret.

The television 'phone called my name. I immediately hurried to the booth and saw General Loomis, the Commander-in-Chief of the American and Caucasian Armies, standing in his helicopter headquarters. He seemed haggard and worn. "How much longer, Johnson?" he asked. "The enemy has pretty well eaten out the country and with the advent of winter and lack of food, are bending all their efforts to crush us. Besides, we cannot tell just how long it will be before they begin turning out their new bomb in other than experimental quantities. Two weeks, I should estimate, is about all the longer I can hold them."

"If that is the case, General Loomis," I replied, "we may as well give up. Two months will see us ready. But two weeks—!"

I felt a hand laid on my shoulder. Dr. Rutledge, my science chief, had stepped into the booth behind me and overheard the conversation.

"General Loomis," Dr. Rutledge spoke, looking for all the world like a patriarch of olden times, "until five minutes ago what Johnson has just said

would have sealed our fate. But now, I think, I believe, we have one more card to play. I have only this moment completed a series of reactions which have resulted (as I calculated they should) in the production of a new protein, similar in appearance to flour. It should, although of course I have not yet had time to verify this statement, be a practical substitute for flour; and indeed, it is my belief that it will easily be mistaken for that substance. Its particles are laminated similar to starch, of an identical size, and the nutritive factor should be greater than that of bread. It is, in short, a new, a foreign protein never before found in this world of men!"

"Very interesting, I am sure," replied General Loomis, with a trace of bitterness and sarcasm in his voice. "Your noble efforts will result in feeding the yellow devils an excellent artificial fare. They will be grateful, I know!"

"Exactly my object, general," Dr. Rutledge replied. He continued impressively: "You have until now relied upon me largely in the waging of this war to save the white race from the menace of the yellow. Since all is lost at any rate, grant me one last effort in behalf of my country. At all costs, Loomis, hold your present lines for two days, preparing to suddenly retire to the west bank of the Mississippi. I leave it to your strategy to make a sudden retreat (which should extend over a period of at

least ten days) appear as if enforced by the enemy themselves."

"There should be no difficulty in that direction," General Loomis interpolated, smiling wryly on the television screen.

"Once on the west bank," went on Dr. Rutledge seriously, not noticing the interjection, "make a stand for a day or two and then suddenly retreat across the river to the east bank as if again forced to do so. Now, General, two days from this time—before your retreat begins—I shall, I trust, have your armies all along the lines supplied with my new artificial, foreign protein flour. This you will leave in the enemy's hands, which, you have intimated, will be much to their delight. You will do the same at the stand which for a while you held on the west bank. But, mind you, let none of your men use any of this perfectly harmless food. I will personally see to it that you will receive it in such containers that none will come in contact with your persons."

"Doctor," Loomis said after staring at the old scientist some time in astonishment, "except for years of personal acquaintance, I would say that you were suffering a mental shock. Knowing you as I do, however, I pray to God you're making no mistake this time. I'll do as you wish." His figure faded from the screen.

The next fortnight was one of black despair. I myself doubted on occasions whether or not the old doctor was mentally account-

able—even I who had trusted him so long. General Loomis and his staff called up daily to inquire if Dr. Rutledge had any change of plans. As for the army and the populace, they were one in calling on the President to make terms with the enemy. The allies truly were on the point of collapse. All that kept up what morale was left in the chemical division was the unrelenting demands made on us by Dr. Rutledge to continue to ferret out the electronic detonator. Until then, he had scarcely bothered with our work; now he would hear of nothing else. "Today's the Day!" was the slogan he had displayed above every bench.

Finally the fatal day arrived. The retreat across the Mississippi was consummated. This time it was not feigned. The Mongols were hungry, and their appetites were whetted for more flour such as had sustained them for the past twelve days. Moreover, new electronic bombs were beginning to be supplied them.

My name leapt at me across the room: I was being called by that almost human instrument, the television 'phone. Both my superior and I hurried to the cabinet. It was, as we had guessed, Loomis. "It's all up," he said wretchedly. "The fresh supply of atomic degenerating bombs, for which the enemy has been holding back, has now arrived. They matched and neutralized our electric field defense screen just an hour ago, leaving us at their mercy. You've had

your chance, Doctor, and failed. I advise you both to make your way north and wait until these fiends forget the inconvenience you both have caused them. As for me, I'm leaving this instant to offer unconditional surrender in the name of all the allies."

It was about ten o'clock in the morning, just after he had transported all his forces hurriedly to the east bank, and as the Mongols were occupying the old entrenchments on the west, that General Loomis closed his conversation with the Chemical Laboratory. He turned to an aerial officer who stood at attention beside him. "Major Maniu," he said, "trail a white banner of truce on your plane and tell the enemy I will parley with them. Tell them that we will serve rations presently to our men who have worked all night without food or rest, and that if it is agreeable to them, both sides shall simultaneously discontinue activity at one o'clock. At that time I shall cross the river to offer them our terms of surrender."

The officer saluted and hastened to his near-by plane. General Loomis ascended into his helicopter to confer with his staff to draw up in documentary form the surrender, and give the necessary orders relative to lowering of fire that afternoon. He also spoke to the President and to the crowd outside the White House, and then began nervously waiting the crucial moment.

About twelve-thirty, however, a remarkable fact forced itself on his attention. Whereas the allied batteries continued to thunder away, the fire from the Orientals became irregular and sporadic. "Celebrating their victory beforehand," the French commander remarked bitterly to his chief. Loomis nodded. "And getting careless, too," another of the Staff added as he saw one of the enemy's detonator bombs disintegrate three or four hundred acres of a Mongolian base encampment fifty miles to the northwest and shoot it a monstrous blazing rocket twenty or thirty miles into the midday sky.

By twelve forty-five the enemy's barrage had fallen completely all along the line. Our battery nevertheless continued until the set time but elicited no answer. Exactly at one General Loomis with two aides stepped into his air-car. He was a picture of grief and despair. Three minutes late the party landed forty miles across the river before the headquarters and armored dining hall of the Oriental General Staff.

Loomis and his officers stepped out of their car and looked about. No one was in sight. Not even a sentry guarded the mess room door. The General paced back and forth a few minutes in indecision.

"Evidently they mean to make us feel our defeat," he said. "They apparently do not even think it further necessary to observe rudimentary diplomatic

courtesy. Come on, boys, beggars can't be choosers, as the antique saying goes." He led the way to the dining hall through a window of which a light was seen shining.

"Perhaps if we find his xanthic highness after a good meal he will be inclined to be a bit more lenient," Loomis whispered with a forced laugh, trying to cheer his glum companions.

He opened the unguarded door of the hall. An instant later he reeled back horror-stricken. Instead of a feasting gathering of officers attached to the Mongolian Staff he saw before a feast of men contorted in grotesque shapes by some violent death. Many lay beside the table, some on it, their faces blotched with great, unsightly wheals, their chests bloated until they seemed about to burst. Only one poor wretch had any life left in him—he lay exhausted on the floor with great streams of frothy mucous pouring from his nose and throat.

A possibility dawned in Loomis' mind. He dashed away to search the other mess tents, shouting to his aides to follow suit. It was as he guessed: they had landed in a camp of dead and dying; stricken by some mysterious power. Hope suddenly surged back into his soul. He felt dizzy and faint. Could a similar fate have caused the unaccountable silence of the enemy's cannonade? Even as the thought came to him, he knew it must be so. His marvelous old

friend, Dr. Rutledge, had risen to the need of the world and crushed the yellow menace.

Such, truly, had been the case. In a single hour, through the agency of a harmless food, the subtle scientist had crushed a nation. The principle involved had been discovered nearly two centuries before, when it was well-known that if an animal were injected with a small quantity of a protein foreign to his body, a subsequent dose a hundred million times as weak would cause its immediate and violent death. Even the quantity that might be flying in the atmosphere and become dissolved in the fluids of the nose or eyes would act as the most virulent of known poisons. Through the ages, however, the human race had more or less come in contact with all the proteins in their world and hence rarely became highly sensitized to any protein occurring in nature. The terrible toxicity of a protein which had never before occurred in nature and to whose power mankind had never been even partially desensitized had up to the time of Dr. Rutledge only entered the minds of a few scientists. His strategy was the working out of a new maxim: Nature is terrible, but man makes it more so.

Foreign protein sensitization or anaphylaxis was the basis of Dr. Rutledge's coup. The laws governing this reaction had been more or less worked out by

a group of scientists in the twentieth century. They had demonstrated that if a guinea-pig or rabbit were injected with the blood serum of another species, a subsequent dose of an infinitely small quantity of this substance would cause convulsions, collapse and rapid death. Inasmuch as there were many proteins in the atmosphere at that time due to the unrestrained pollination of plants of every description, it was not surprising that they found as many as ten per cent of the white race afflicted with a slight pollen sensitivity which showed up seasonally by causing spasms of the smooth muscle of the respiratory system, a disease popularly called "hay-fever."

Since, however, the proteins of the world had always been present, the human race had, by constantly coming into contact with them, become more or less immunized to the majority. Only occasionally a case of violent sensitivity came to light and was recognized as such. Two or three cases there had been which the old scientist discovered while searching the archives of ancient medicine and these gave him the clew he needed.

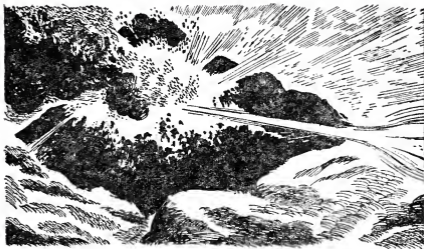
One was the case of a little girl who had somehow or other become sensitized to the protein of wasp toxin and who suffered almost immediate death from anaphylactic "choc" as the result of being stung by that insect. A second instance concern-

ed a woman who went into violent asthmatic paroxysms if a mouse entered the room where she was, and whose skin broke out into large wheals if touched with mouse hair. Finally, and most outstanding in his mind, was the case of a child who was thought to be sensitive to the fish protein in glue and who died almost immediately when the physician testing her had brought a small quantity of the dry protein into contact with a scratch on her arm.

These had, however, been rare cases, but they pointed out the method. It had already been proved over and over again that animals could be sensitized experimentally by treating them with foreign proteins, provided that after the initial dose they did not come into contact with the same protein until after a lapse of about two weeks. If they happened to do so the first injection or treatment was frequently neutralized and failed to give the desired sensitivity.

With the discovery of a new, highly pure and synthetic protein by Dr. Rutledge the situation with the enemy could be put on a close parallel with the laboratory condition. The enemy could be fed the protein when they were in need of food and had little else, but since it was synthetic, they could not get a second supply until the Doctor was able to put the fatal meal in their way.

THE END



ROBOT AL 76 GOES ASTRAY

By ISAAC ASIMOV

AL 76 was built for a single and specific purpose. Unfortunately, he went and got himself lost. But he knew his job and he did it!

JONATHAN QUELL'S eyes crinkled worriedly behind their rimless glasses as he charged through the door labelled "General Manager."

He slapped the folded paper in his hands upon the desk and panted, "Look at that, boss!"

Sam Tobe juggled the cigar in his mouth from one cheek to

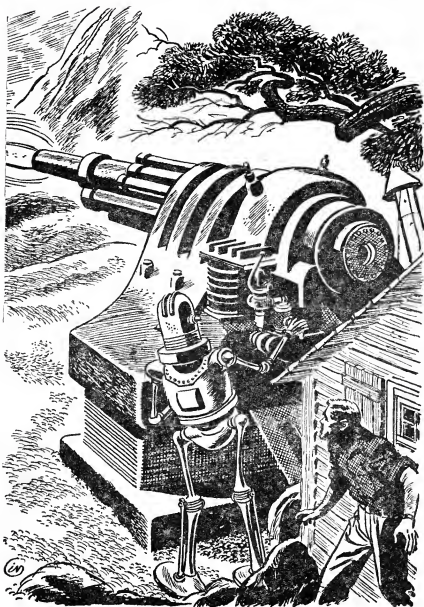
the other, and looked. His hand went to his unshaven jaw and rasped along it. "Hell!" he exploded. "What are they talking about?"

"They say we sent out five AL robots," Quell explained, quite unnecessarily.

"We sent six," said Tobe.

"Sure, six! But they only got

Amazing Stories, Feb. 1948



The mountain top vanished in a blaze straight from Hell!

five at the other end. They sent out the serial numbers and AL 76 is missing."

Tobe's chair went over backwards as he heaved his thick bulk upright and went through the door as if he were on greased wheels. It was five hours later—with the plant all pulled apart from assembly rooms to vacuum chambers; with every one of the plants two hundred employees put through the third-degree mills; that a sweating, disheveled Tobe sent an emergency message to the Central Plant at Schenectady.

And at the Central Plant, a sudden explosion of near-panic took place. For the first time in the history of the United States Robot and Mechanical Men Corporation, a robot had escaped to the outer world. It wasn't so much that the law forbade the presence of any robot on Earth outside a licensed factory of the Corporation. Laws could always be squared. What was much more to the point was the statement made by one of the research mathematicians.

He said: "That one robot was created to run a Disinto on the Moon. Its positronic brain was equipped for a Lunar environment, and *only* a Lunar environment. On Earth here it's going to receive seventy-five umptyillion sense-impressions for which it was never prepared. There's no telling *what* its reactions will be. No telling! And he wiped a forehead that had suddenly gone wet, with the back of his hand.

Within the hour, a stratoplane had left for the Virginia plant. The instructions were simple.

"Get that robot, and get it fast!"

AL 76 was confused! In fact, confusion was the only impression his delicate positronic brain retained. It had started when he had found himself in these strange surroundings. How it had come about, he no longer knew. Everything was mixed up.

There was green underfoot, and brown shafts rose all about him with more green on top. And the sky was blue where it should have been black. The sun was all right, round and yellow and hot—but where was the powdery pumice rock underfoot; where were the huge cliff-like crater rings?

There was only the green below and the blue above. The sounds that surrounded him were all strange. He had passed through running water that had reached his waist. It was blue and cold and wet. And when he passed people, as he did, occasionally, they were without the spacesuits they should have been wearing. When they saw him, they shouted and ran.

One man had leveled a gun at him and the bullet had whistled past his head—and then he had run, too.

He had no idea of how long he had been wandering before he finally stumbled upon Randolph Payne's shack two miles out in the woods from the town

of Hannaford. Randolph Payne himself, a screwdriver in one hand, a pipe in the other and a battered ruin of a vacuum-cleaner between his knees, squatted outside the doorway.

Payne was humming at the time, for he was a naturally happy-go-lucky soul—when at his shack. He had a more respectable dwelling place back in Hannaford, but *that* dwelling place was pretty largely occupied by his wife, a fact which he silently but sincerely regretted. Perhaps, then, there was a sense of relief and freedom at such times when he found himself able to retire to his "special deluxe doghouse" where he could smoke in peace and attend to his hobby of re-servicing household appliances.

It wasn't much of a hobby, but sometimes someone would bring out a radio or an alarm clock and the money he would get paid for juggling its insides was the only money he ever got that didn't pass in dribblets through his spouse's niggardly hands.

This vacuum cleaner for instance, would bring in an easy six bits.

At the thought, he broke into song, raised his eyes, and broke into a sweat. The song choked off, the eyes popped, and the sweat became more intense. He tried to stand up—as a preliminary to running like hell—but he couldn't get his legs to cooperate.

And then AL 76 had squatted down next to him, and said,

"Say, why did all the rest of them run?"

Payne knew damn well why they all ran, but the gurgle that issued from his diaphragm didn't show it. He tried to inch away from the robot.

AL 76 continued in an aggrieved tone, "One of them even took a shot at me. An inch to the left and he would have scratched my chest plates."

"M-must have b-been a nut," stammered Payne.

"That's possible." The robot's voice grew more confidential, "Listen, what's wrong with everything?"

Payne looked hurriedly about. It had struck him that the robot spoke in a remarkably mild tone for one so heavily and brutally metallic in appearance. It also struck him that he had heard somewhere that robots were mentally incapable of harming human beings. He relaxed a bit.

"There's nothing wrong with anything."

"Isn't there?" AL 76 eyed him accusingly. "You're all wrong. Where's your spacesuit?"

"I haven't got any."

"Then why aren't you dead?"

That stopped Payne, "Well,—I don't know."

"See!" said the robot, triumphantly, "there is something wrong with everything. Where's Mt. Copernicus? Where's Lunar Station 17? And where's my Disinto? I want to get to work, I do." He seemed perturbed, and his voice shook as he continued.

"I've been going about for hours trying to get someone to tell me where my Disinto is, but they all run away. By now, I'm probably way behind schedule and the Sectional Executive will be as sore as blazes. This is a fine situation."

Slowly, Payne unscrambled the stew in which his brain found itself and said, "Listen, what do they call you?"

"My serial number is AL 76."

"All right. Al is good enough for me. Now, Al, if you're looking for Lunar Station 17, that's on the Moon. See?"

AL 76 nodded his head ponderously, "Sure. But I've been looking for it—"

"But it's on the Moon. This isn't the Moon."

It was was the robot's turn to become confused. He watched Payne for a speculative moment and then said slowly, "What do you mean this isn't the Moon? Of course it's the Moon. Because if it isn't the Moon, what is it? Huh? Answer me that."

Payne made a funny sound in his throat and breathed hard. He pointed a finger at the robot and shook it. "Look," he said,—and then the brilliant idea of the century struck him, and he finished with a strangled, "Wow!"

AL 76 eyed him censoriously, "That isn't an answer. I think I have a right to a civil answer if I ask a civil question."

Payne wasn't listening. He was still marvelling at himself. Why, it was as plain as day. This robot was one built for the Moon

that had somehow gotten loose on Earth. Naturally it would be all mixed up, because its positronic brain had been geared exclusively for a Lunar environment, making its Earthly surroundings entirely without any meaning.

And now if he could only keep the robot here—until he could get in touch with the men at the factory in Petersboro. Why, robots were worth money. The cheapest cost \$50,000, he had once heard, and some of them ran into millions. Think of the reward!

Man, oh, man, *think of the reward!* And every cent for himself. Not as much as a quarter of a snifter of a plugged nickel for Mirandy. Jumpin' tootin' blazes, *no!*

He rose to his feet at last, "Al," he said. "You and I are buddies! Pals! I love you like a brother." He thrust out a hand, "Shake!"

The robot swallowed up the offered hand in a metal paw and squeezed it gently. He didn't quite understand, "Does that mean you'll tell me how to get to Lunar Station 17?"

Payne was a trifle disconcerted, "N—no, not exactly. As a matter of fact, I like you so much, I want you to stay here with me a while."

"Oh, no, I can't do that. I've got to get to work." He added gloomily, "How would you like to be falling behind your quota hour by hour and minute by

minute? I want to work. I've got to work."

Payne thought sourly that there was no accounting for tastes, and said, "All right, then I'll explain something to you—because I can see from the looks of you that you're an intelligent person. I've had orders from your Sectional Executive, and he wants me to keep you here for a while. Till he sends for you, in fact."

"What for?" asked AL 76, suspiciously.

"I can't say. It's secret government stuff." Payne prayed inwardly and fervently, that the robot would swallow this. Some robots were damned clever, he knew, but this looked like one of the early models.

While he prayed, AL 76 considered. The robot's brain, adjusted to the handling of a Disinto on the Moon, was not at its best when engaged in abstract thought, but, just the same, ever since he had gotten lost, AL 76 had found his thought processes becoming stranger. The alien surroundings did something to him.

His next remark was almost shrewd. He said, slyly, "What's my Sectional Executive's name?"

Payne gulped and thought rapidly. "Al," he said, in a pained fashion, "you hurt me with this suspicion. I *can't* tell you his name. The trees have ears."

AL 76 inspected the tree next to him stolidly and said, "They have not."

"I know. What I mean is that spies are all around."

"Spies?"

"Yes. You know, *bad* people that want to destroy Lunar Station 17."

"What for?"

"Because they're *bad*. And they want to destroy *you*, and that's why you've got to stay here for a while, so they can't find you."

"But—but I've got to have a Disinto. I mustn't fall behind my quota."

"You will have. Oh, you will have." Payne promised earnestly, and just as earnestly damned the robot's one-track mind. "They're going to send one out tomorrow. Yeah, tomorrow." That would be plenty of time to get the men from the factory out here and collect beautiful heaps of hundred-dollar bills.

But AL 76 grew only the more stubborn under the distressing impingement of the strange world all about him upon his thinking mechanism.

"No," he said. "I've got to have a Disinto now." Stiffly, he straightened his joints, jerking erect. "I'd better look for it some more."

Payne swarmed after and grabbed a cold, hard elbow. "Listen," he squealed. "You've got to stay—"

And something in the robot's mind clicked. All the strangeness surrounding him collected itself into one globule, exploded, and left his brain ticking with a curiously increased efficiency. He

whirled on Payne, "I tell you what. I can build a Disinto right here. —And then I can work it."

Payne paused doubtfully, "I don't think I can build one." He wondered if it do any good to pretend he could.

"That's all right." AL 76 could almost feel the positronic paths of his brain weaving into a new pattern, and he experienced a strange exhalation, "I can build one." He looked into Payne's deluxe doghouse, and said, "You've got all the material here that I need."

Randolph Payne surveyed the junk with which his shack was filled: eviscerated radios, a topless refrigerator, rusty automobile engines, a broken-down gas range, several miles of frayed wire, and, taking it all together, fifty tons or thereabouts of the most heterogeneous mass of old metal as ever caused a junkman to sniff disdainfully.

"Have I?" he said, weakly.

Two hours later, two things happened practically simultaneously. The first was that Sam Tobe of the Petersboro branch of U.S. Robot & Mechanical Men, Inc. received a visiphone call from one Randolph Payne of Hannaford. It concerned the missing robot, and Tobe, with a deep-throated snarl, broke connection half-way through, and ordered all subsequent calls to be re-routed to the sixth assistant vice-president in charge of buttonholes.

This was not really unreason-

able in Tobe. During the past week, although Robot AL 76 had dropped from sight completely, reports had flooded in from all over the Union as to the robot's whereabouts. As many as fourteen a day came—usually from fourteen different states.

Tobe was damn tired of it, to say nothing of being half-crazy just on general principles. There was even talk of a Congressional investigation, though every reputable Robotician and Mathematical Physicist on Earth swore the robot was harmless.

In his state of mind, then, it is not surprising that it took three hours for the General Manager to pause and consider just exactly how it was that this Randolph Payne had known that the robot was slated for Lunar Station 17; and, for that matter, how he had known that the robot's serial number was AL 76. Those details had not been given out by the company.

He kept on considering for about a minute and a half and then swung into action.

However, during these three hours between the call and the action, the second event took place. Randolph Payne, having correctly diagnosed the abrupt break in his call as being due to general skepticism on the part of the plant official, returned to his shack with a camera. They couldn't very well argue with a photograph, and he'd be damned if he'd show them the real thing before they came across with the cash.

AL 76 was busy with affairs of his own. Half of the contents of Payne's shack was littered over about two acres of ground and, in the middle of it, the robot squatted and fooled around with radio tubes, hunks of iron, copper wire, and general junk. He paid no attention to Payne, who, sprawling flat on his belly, focussed his camera for a beautiful shot.

And at this point it was that Lemuel Oliver Cooper turned the bend in the road and froze in his tracks as he took in the tableau. The reason for his coming in the first place was an ailing electric toaster that had developed the annoying habit of throwing out pieces of bread forcefully, but thoroughly untoasted. The reason for his *leaving* was more obvious. He had come with a slow, mildly cheerful, spring-morning saunter. He left with a speed that would have caused any college track coach to raise his eyebrows and purse his lips approvingly.

There was no appreciable slackening of speed, until Cooper hurtled into Sheriff Saunders' office minus hat and toaster and brought himself up hard against the wall.

Kindly hands lifted him and for half a minute he tried speaking before he had actually calmed down to the point of breathing, with, of course, no result.

They gave him whiskey, and fanned him, and when he did speak, it came out something

like this: "—M-monster—seven feet tall—shack all busted up—poor Rannie Payne—" and so on.

They got the story out of him gradually: how there was a huge metal monster, seven feet tall, maybe even eight or nine, out at Randolph Payne's shack; how Randolph Payne himself was on his stomach, a "poor, bleeding, mangled corpse"; how the monster was then busily engaged in wrecking the shack out of sheer destructiveness; then how it had turned on Lemuel Oliver Cooper, and how he—Cooper—had made his escape by half a hair.

Sheriff Saunders hitched his belt tighter about his portly middle and said, "It's that there machine man that got away from the Petersboro factory. We got warning on it last Saturday.—Hey, Jake, you get every man in Hannaford County that can shoot and slap a depitty's badge on him. Get them here at noon. And listen, Jake, before you do that, just drop in at the Widder Payne's place and slip her the bad news gentle-like."

It is reported that Miranda Payne, having been acquainted with events, paused only to make sure that her "ex"-husband's insurance policy was safe, and to make a few pithy remarks concerning his danged foolishness in not taking out double what he had, before breaking out into as prolonged and heart-wringing a wail of grief as ever became a respectable widow.

It was some hours later that

Randolph Payne—unaware of his horrible mutilation and death—viewed the completed negatives of his snapshots with satisfaction. As a series of portraits of a robot at work, they left nothing to the imagination. They might have been labelled: "Robot Gazing Thoughtfully at a Vacuum Tube," "Robot Splicing Two Wires," "Robot Wielding Screw-Driver," "Robot Taking Frigidaire apart with Great Violence" and so on.

As there now remained only the routine of making the prints themselves, he stepped out from beyond the curtain of the improvised dark-room for a bit of a smoke and a chat with AL 76.

In doing so, he was blissfully unaware that the neighboring woods were verminous with nervous farmers armed with anything from an old colonial relic of a blunderbuss to the portable machine-gun carried by the Sheriff himself. Nor, for that matter, had he any inkling of the fact that half a dozen robotists, under the leadership of Sam Tobe, were smoking down the highway from Petersboro at better than a hundred and twenty miles an hour—for the sole purpose of having the pleasure and honor of his acquaintance.

So while things were jittering towards a climax, Randolph Payne sighed with self-satisfaction, lit a match upon the seat of his pants, puffed away at his pipe, and looked at AL 76 with amusement.

It had been apparent for quite

some time that the robot was more than slightly lunatic. Randolph Payne was himself an expert at home-made contraptions; having built several that could not have been exposed to daylight without searing the eyeballs of all beholders;—but he had never even conceived of anything approaching the monstrosity that AL 76 was concocting.

It would have made the Rube Goldbergs of his day die in convulsions of envy. It would have made Picasso quit art in the sheer knowledge that he had been hopelessly surpassed. It would have soured the milk in the udders of any cow within half a mile of it.

In fact, it was gruesome!

From a rusty and massive iron base that faintly resembled something Payne had once seen attached to a second-hand tractor, it rose upward in rakish, drunken swerves, through a bewildering mess of wires, wheels, tubes, and nameless horrors without number, ending in a megaphone arrangement that looked decidedly sinister.

Payne had the impulse to peek in the megaphone, but refrained. He had seen far more sensible machines explode suddenly and with violence.

He said, "Hey, Al."

The robot looked up. He had been lying flat on his stomach, teasing a thin sliver of metal into place. "What do you want, Payne?"

"What is this?" He asked it in the tone of one referring to

something foul and decomposing, held gingerly between two ten-foot poles.

"It's the Disinto I'm making—so I can start to work. It's an improvement on the standard model." The robot rose, dusted his knees clankingly, and looked at it proudly.

Payne shuddered, an "improvement"! No wonder they hid the original in caverns on the Moon. Poor satellite! Poor, dead satellite! He had always so wanted to know what a fate worse than death was. Now he knew.

"Will it work?" he asked.

"Sure."

"How do you know?"

"It's got to. I made it, didn't I? I only need one thing now. Got a flashlight?"

"Somewheres, I guess." Payne vanished into the shack and returned almost immediately.

The robot unscrewed the bottom and set to work. In five minutes, he had finished, stepped back, and said, "All set. Now I get to work. You may watch if you want to."

A pause, while Payne tried to appreciate the magnanimity of the offer. "Is it safe?"

"A baby could handle it."

"Oh!" Payne grinned weakly and got behind the thickest tree in the vicinity. "Go ahead," he said, "I have the utmost confidence in you."

AL 76 pointed to the nightmarish junkpile and then said, "Watch!" His hands set quickly to work—

The embattled farmers of Hannaford County, Virginia, weaved up upon Payne's shack in a slowly tightening circle. With the blood of their heroic colonial forebears pounding in their veins—the goose-flesh trickling up and down their spines—they crept from tree to tree.

Sheriff Saunders spread the word, "Fire when I give the signal—and aim at the eyes."

Jacob Linker—Lank Jake, to his friends, and Sheriff's Deputy to himself—edged close, "Ya think mebbe this machine man has skedaddled." He did not quite manage to suppress the tone of wistful hopefulness in his voice.

"Dunno," grunted the Sheriff. "Guess not, though. We wouda come across him in the woods if he had, and we haven't."

"But it's awful quiet, and it 'pears to me as if we're gettin' close to Payne's place."

The remainder wasn't necessary. Sheriff Saunders had a lump in his throat so big it had to be swallowed in three installments. "Get back," he ordered, "and keep your finger on the trigger."

They were at the rim of the clearing now, and Sheriff Saunders closed his eyes and stuck the corner of one out from behind the tree. Seeing nothing, he paused, then tried again, eyes open this time.

Results were, naturally, better.

To be exact, he saw one huge machine man, back towards him,

bending over one soul-curdling, hiccupy contraption of uncertain origin and less certain purpose. The only item he missed was the quivering figure of Randolph Payne, embracing the tree next but three to the nor'-nor'-west.

Sheriff Saunders stepped out into the open and raised his machine-gun. The robot, still presenting a broad metal back, said in a loud voice—to person or persons unknown — “Watch!” and as the Sheriff opened his mouth to ki-yi a general order to fire—metal fingers compressed a switch.

There exists no adequate description of what occurred afterwards, in spite of the presence of seventy eye-witnesses. In the days, months, and years to come not one of those seventy ever had a word to say about the few seconds after the Sheriff had opened his mouth to give the firing order. When they were questioned about it, they merely turned apple-green and staggered away.

It is plain, however, that in a general way, what did occur was this.

Sheriff Saunders opened his mouth; AL 76 pulled a switch; the Disinto worked—and seventy-five trees, two barns, three cows and the top three-quarters of Duckbill Mountain whiffed into rarefied atmosphere. They became, so to speak, one with the snows of yesteryear.

Sheriff Saunders' mouth remained open for an indefinite in-

terval thereafter, but nothing—neither firing orders nor anything else—issued therefrom. And then—

And then, there was a stirring in the air, a multiple ro-o-o-o-shing sound, a series of purple streaks through the atmosphere radiating away from Randolph Payne's shack at the center—and of the members of the posse, not a sign.

There were various guns scattered about the vicinity, including the Sheriff's patented nickel - plated, extra - rapid-fire, guaranteed-no-clog, portable machine gun. There were about fifty hats, a few half-chomped cigars, and some odds and ends that had come loose in the excitement—but of actual human beings there were none.

Except for Lank Jake, not one of those human beings came within human ken for three days, and the exception in his favor came about because he was interrupted in his comet-flight by the half-dozen men from the Petersboro factory, who were charging *into* the wood at a pretty fair speed of their own.

It was Sam Tobe that stopped him, catching Lank Jake's head skillfully in the pit of his stomach. When he caught his breath, Tobe asked, “Where's Randolph Payne's place?”

Lank Jake allowed his eyes to unglaze for just a moment. “Brother,” he said, “just you follow the direction I ain't going.”

And with that, miraculously,

he was gone. There was only a shrinking dot, dodging trees on the horizon, that might have been him, but now Sam Tobe wouldn't have sworn to it.

That takes care of the posse; but there still remains Randolph Payne, whose own reactions took something of a different form.

For Randolph Payne, the five-second interval after the pulling of the switch and the disappearance of Duckbill Mountain was a total blank. At the start he had been peering through the thick underbrush from behind the bottom of the trees; at the end, he was swinging wildly from one of the topmost branches. The same impulse that had driven the posse horizontally, had driven him vertically.

As to how he had covered the hundred fifty feet from roots to top—whether he had climbed, or jumped, or flown, he did not know—and he didn't give a particle of a damn.

What he *did* know was that property had been destroyed by a robot temporarily in his possession. All visions of rewards vanished and were replaced by trembling nightmares of hostile citizenry, shrieking lynch mobs, lawsuits, murder charges and what Mirandy Payne would say. —Mostly what Mirandy Payne would say.

He was yelling wildly and hoarsely, "Hey, you robot, you smash that thing, do you hear? Smash it good! You forget I ever had anything to do with it.

You're a stranger to me, see? You don't ever say a word about it. Forget it, you hear?"

He didn't expect his orders to do any good; it was only reflex action. What he didn't know was that a robot always obeyed a human order except where carrying it out involved danger to another human.

AL 76, therefore calmly and methodically, proceeded to demolish his Disinto into rubble and flinders.

Just as he was stamping the last cubic inch underfoot, Sam Tobe and his contingent arrived, and Randolph Payne, sensing that the real owners of the robot had come, dropped out of the tree head-first and made for regions unknown feet-first.

He did not wait for his reward.

Austin Wilde, Robotical Engineer, turned to Sam Tobe and said, "Did you get anything out of the robot?"

Tobe shook his head and he snarled deep in his throat, "Nothing. Not a damn thing. He's forgotten everything that's happened since he left the factory. He must have gotten *orders* to forget or it couldn't have left him so blank. —What was that pile of junk?"

"Just that. A pile of junk. —But it must have been a Disinto before he smashed it, and I'd like to kill the fellow who ordered him to do that, by slow torture. Look at this!"

(Concluded on page 221)

ADVANCED CHEMISTRY

By JACK G. HUEKELS

There is a lot of entertainment and also a great deal of truth in this story. We recommend it highly.

Amazing Stories, March 1937

PROFESSOR CARBONIC was diligently at work in his spacious laboratory, analyzing, mixing and experimenting. He had been employed for more than fifteen years in the same pursuit of happiness, in the same house, same laboratory, and attended by the same servant woman, who in her long period of service had

attained the plumpness and respectability of two hundred and ninety pounds.

"Mag Nesia," called the professor. The servant's name was Maggie Nesia—Professor Carbonic had contracted the title to save time, for in fifteen years he had not mounted the heights of greatness; he must work harder



The electric current lighted up everything in sight!

and faster as life is short, and eliminate such shameful waste of time as putting the "gie" on Maggie.

"Mag Nesia!" the professor repeated.

The old woman rolled slowly into the room.

"Get rid of these and bring the one the boy brought today."

He handed her a tray containing three dead rats, whose brains had been subjected to analysis.

"Yes, Marse," answered Mag Nesia in a tone like citrate.

The professor busied himself with a new preparation of zinc oxide and copper sulphate and sal ammoniac, his latest concoction, which was about to be used and, like its predecessors, to be abandoned.

Mag Nesia appeared bringing another rat, dead. The professor made no experiments on live animals. He had hired a boy in the neighborhood to bring him fresh dead rats at twenty-five cents per head.

Taking the tray he prepared a hypodermic filled with the new preparation. Carefully he made an incision above the right eye of the carcass through the bone. He lifted the hypodermic, half hopelessly, half expectantly. The old woman watched him, as she had done many times before, with always the same pitiful expression. Pitiful, either for the man himself or for the dead rat. Mag Nesia seldom expressed her views.

Inserting the hypodermic

needle and injecting the contents of the syringe, Professor Carbonic stepped back.

Prof. Carbonic Makes a Great Discovery

"Great Saints!" His voice could have been heard a mile. Slowly the rat's tail began to point skyward; and as slowly Mag Nesia began to turn white. Professor Carbonic stood as paralyzed. The rat trembled and moved his feet. The man of sixty years made one jump with the alacrity of a boy of sixteen, he grabbed the enlivened animal, and held it high above his head as he jumped about the room.

Spying the servant, who until now had seemed unable to move, he threw both arms around her, bringing the rat close to her face. Around the laboratory they danced to the tune of the woman's shrieks. The professor held on, and the woman yelled. Up and down spasmodically on the laboratory floor came the two hundred and ninety pounds with the professor thrown in.

Bottles tumbled from the shelves. Furniture was upset. Precious liquids flowed unrestrained and unnoticed. Finally the professor dropped with exhaustion and the rat and Mag Nesia made a dash for freedom.

Early in the morning pedestrians on Arlington Avenue were attracted by a sign in brilliant letters.

Professor Carbonic early in the morning betook himself to

the nearest hardware store and purchased the tools necessary for his new profession. He was an M.D. and his recently acquired knowledge put him in a position to startle the world. Having procured what he needed he returned home.

Things were developing fast. Mag Nesia met him at the door and told him that Sally Soda, who was known to the neighborhood as Sal or Sal Soda generally, had fallen down two flights of stairs, and to use her own words was "Putty bad." Sal Soda's mother, in sending for a doctor, had read the elaborate sign of the new enemy of death, and begged that he come to see Sal as soon as he returned.

Bidding Mag Nesia to accompany him, he went to the laboratory and secured his precious preparation. Professor Carbonic and the unwilling Mag Nesia started out to put new life into a little Sal Soda who lived in the same block.

Reaching the house they met the family physician then attendant on little Sal. Doctor X. Ray had also read the sign of the professor and his greeting was very chilly.

"How is the child?" asked the professor.

"Fatally hurt and can live but an hour." Then he added, "I have done all that can be done."

"All that *you* can do," corrected the professor.

With a withering glance, Doctor X. Ray left the room and the

house. His reputation was such as to admit of no intrusion.

"I am sorry she is not dead, it would be easier to work, and also a more reasonable charge." Giving Mag Nesia his instruments he administered a local anesthetic; this done he selected a brace and bit that he had procured that morning. With these instruments he bored a small hole into the child's head. Inserting his hypodermic needle, he injected the immortal fluid, then cutting the end off a dowel, which he had also procured that morning, he hammered it into the hole until it wedged itself tight.

Professor Carbonic seated himself comfortably and awaited the action of his injection, while the plump Mag Nesia paced or rather waddled the floor with a bag of carpenter's tools under her arm.

The fluid worked. The child came to and sat up. Sal Soda had regained her pep.

"It will be one dollar and twenty-five cents, Mrs. Soda," apologized the professor. "I have to make that charge as it is so inconvenient to work on them when they are still alive."

Having collected his fee, the professor and Mag Nesia departed, amid the ever rising blessings of the Soda family.

At 3:30 P. M. Mag Nesia sought her employer, who was asleep in the sitting room.

"Marse Paul, a gentleman to see you."

The professor awoke and had her send the man in.

The man entered hurriedly, hat in hand. "Are you Professor Carbonic?"

"I am, what can I do for you?"

"Can you——?" the man hesitated. "My friend has just been killed in an accident. You couldn't——" he hesitated again.

"I know that it is unbelievable," answered the professor, "But I can."

Professor Carbonic for some years had suffered from the effects of a weak heart. His fears on this score had recently been entirely relieved. He now had the prescription—Death no more! The startling discovery, and the happenings of the last twenty-four hours had begun to take effect on him, and he did not wish to make another call until he was feeling better.

"I'll go," said the professor after a period of musing. "My discoveries are for the benefit of the human race, I must not consider myself."

He satisfied himself that he had all his tools. He had just sufficient of the preparation for one injection; this, he thought, would be enough; however, he placed in his case, two vials of different solutions, which were the basis of his discovery. These fluids had but to be mixed, and after the chemical reaction had taken place the preparation was ready for use.

He searched the house for Mag Nesia, but the old servant

had made it certain that she did not intend to act as nurse to dead men on their journey back to life. Reluctantly he decided to go without her.

"How is it possible!" exclaimed the stranger, as they climbed into the waiting machine.

"I have worked for fifteen years before I found the solution," answered the professor slowly.

"I cannot understand on what you could have based a theory for experimenting on something that has been universally accepted as impossible of solution."

"With electricity, all is possible; as I have proved." Seeing the skeptical look his companion assumed, he continued, "Electricity is the basis of every motive power we have; it is the base of every formation that we know." The professor was warming to the subject.

"Go on," said the stranger, "I am extremely interested."

"Every sort of heat that is known, whether dormant or active, is only one arm of the gigantic force electricity. The most of our knowledge of electricity has been gained through its offspring, magnetism. A body entirely devoid of electricity, is a body dead. Magnetism is apparent in many things including the human race, and its presence in many people is prominent."

"But how did this lead to your experiments?"

"If magnetism or motive force, is the offspring of electricity, the human body must, and

does contain electricity. That we use more electricity than the human body will induce is a fact; it is apparent therefore that a certain amount of electricity must be generated within the human body, and without aid of any outside forces. Science has known for years that the body's power is brought into action through the brain. The brain is our generator. The little cells and the fluid that separate them, have the same action as the liquid of a wet battery; like a wet battery this fluid wears out and we must replace the fluid or the sal ammoniac or we lose the use of the battery or body. I have discovered what fluid to use that will produce the electricity in the brain cells which the human body is unable to induce."

"We are here," said the stranger as he brought the car to a stop at the curb.

"You are still a skeptic," noting the voice of the man. "But you shall see shortly."

The man led him into the house and introduced him to Mrs. Murray Attic, who conducted him to the room where the deceased Murray Attic was laid.

Without a word the professor began his preparations. He was ill, and would have preferred to have been at rest in his own comfortable house. He would do the work quickly and get away.

Selecting a gimlet, he bored a hole through the skull of the dead man; inserting his hypodermic he injected all the fluid

he had mixed. He had not calculated on the size of the gimlet and the dowels he carried would not fit the hole. As a last resource he drove in his lead pencil, broke it off close, and carefully cut the splinters smooth with the head.

"It will be seventy-five cents, madam," said the professor as he finished the work.

Mrs. Murray Attic paid the money unconsciously; she did not know whether he was embalming her husband or just trying the keenness of his new tools. The death had been too much for her.

The minutes passed and still the dead man showed no signs of reviving. Professor Carbonic paced the floor in an agitated manner. He began to be doubtful of his ability to bring the man back. Worried, he continued his tramp up and down the room. His heart was affecting him. He was tempted to return the seventy-five cents to the prostrate wife when—**THE DEAD MAN MOVED!**

The professor clasped his hands to his throat, and with his head thrown back dropped to the floor. A fatal attack of the heart.

He became conscious quickly. "The bottles there," he whispered, "Mix—, make injection." He became unconscious again.

The stranger found the gimlet and bored a hole in the professor's head, hastily seizing one of the vials, he poured the contents into the deeply made hole. He then realized that there was another bottle.

"Mix them!" shrieked the almost hysterical woman.

It was too late, the one vial was empty, and the professor's body lay lifeless.

In mental agony the stranger grasped the second vial and emptied its contents also into the professor's head, and stopped the hole with the cork.

Miraculously professor Carbonic opened his eyes, and rose to his feet. His eyes were like balls of fire; his lips moved inaudibly, and as they moved little blue sparks were seen to pass from one to another. His hair stood out from his head. The

chemical reaction was going on in the professor's brain, with a dose powerful enough to restore ten men. He tottered slightly.

Murray Attic, now thoroughly alive, sat up straight in bed. He grasped the brass bed post with one hand and stretched out the other to aid the staggering man.

He caught his hand; both bodies stiffened; a slight crackling sound was audible; a blue flash shot from where Attic's had made contact with the bed post; then a dull thud as both bodies struck the floor. Both men were electrocuted, and the formula is still a secret. **THE END**

ROBOT AL 76 GOES ASTRAY *(Concluded from page 215)*

They were part of the way up the slopes of what had been Duckbill Mountain—at the very point to be exact, where the top had been sheered off; and Wilde put his hand down upon the perfect flatness that cut through both soil and rock.

"What a Disinto," he said. "It took the mountain right off its base."

"What made him build it?"

Wilde shrugged, "I just don't know. Some factor in his environment—there is no way of knowing what—reacted upon his Moon-type positronic brain to produce a Disinto out of junk. It's a million to one against our ever stumbling upon that factor again now that the robot himself has forgotten. We'll never have that Disinto."

"Never mind. The important

thing is that we have the robot."

"The hell you say." There was poignant regret in his voice. "Have you ever had anything to do with the Disintos on the Moon? They eat up energy like so many electronic hogs and won't even begin to run till you've built up a potential of better than a million volts. —But *this* Disinto worked differently. I went through the rubbish with a microscope, and would you like to see the only source of power of any kind that I found?"

"What was it?"

"Just this!—And we'll never know how he did it."

And Justin Wilde held up the source of power that had enabled a Disinto to chew up a mountain in half a second—*two flashlight batteries!*

THE END

THE ETERNAL WALL

By RAYMOND Z. GALLUN

A scream of brakes, the splash into icy waters, a long descent into alkaline depths . . . it was death. But Ned Vince lived again—a million years later!

"SEE you in half an hour, Betty," said Ned Vince over the party telephone. "We'll be out at the Silver Basket before ten-thirty. . . ."

Ned Vince was eager for the company of the girl he loved. That was why he was in a hurry to get to the neighboring town of Hurley, where she lived. His old car rattled and roared as he swung it recklessly around Pit Bend.

There was where Death tapped him on the shoulder. Another car leaped suddenly into view, its lights glaring blindingly past a high, upjutting mass of Jurassic rock at the turn of the road.

Dazzled, and befuddled by his



An incredible science, millions

Amazing Stories, Nov. 1942



of years old, lay in the minds of these creatures.

own rash speed, Ned Vince had only swift young reflexes to rely on to avoid a fearful, telescoping collision. He flicked his wheel smoothly to the right; but the County Highway Commission hadn't yet tarred the traffic-loosened gravel at the Bend.

Ned could scarcely have chosen a worse place to start sliding and spinning. His car hit the white-painted wooden rail sideways, crashed through, tumbled down a steep slope, struck a huge boulder, bounced up a little, and arced outward, falling as gracefully as a swan-diver toward the inky waters of the Pit, fifty feet beneath. . . .

Ned Vince was still dimly conscious when that black, quiet pool gysered around him in a mighty splash. He had only a dazing welt on his forehead, and a gag of terror in his throat.

Movement was slower now, as he began to sink, trapped inside his wrecked car. Nothing that he could imagine could mean doom more certainly than this. The Pit was a tremendously deep pocket in the ground, spring-fed. The edges of that almost bottomless pool were caked with a rim of white—for the water, on which dead birds so often floated, was surcharged with alkali. As that heavy, natronous liquid rushed up through the openings and cracks beneath his feet, Ned Vince knew that his friends and his family would never see his body again, lost beyond recovery in this abyss.

The car was deeply submerged.

The light had blinked out on the dash-panel, leaving Ned in absolute darkness. A flood rushed in at the shattered window. He clawed at the door, trying to open it, but it was jammed in the crash-bent frame, and he couldn't fight against the force of that incoming water. The welt, left by the blow he had received on his forehead, put a thickening mist over his brain, so that he could not think clearly. Presently, when he could no longer hold his breath, bitter liquid was sucked into his lungs.

His last thoughts were those of a drowning man. The machine-shop he and his dad had had in Harwich, Betty Moore, with the smiling Irish eyes—like in the song. Betty and he had planned to go to the State University this Fall. They'd planned to be married sometime. . . . Goodbye, Betty . . .

The ripples that had ruffled the surface waters in the Pit, quieted again to glassy smoothness. The eternal stars shone calmly. The geologic Dakota hills, which might have seen the dinosaurs, still bulked along the highway. Time, the Brother of Death, and the Father of Change, seemed to wait. . . .

"Kaallee! Tik! . . . Tik, tik, tik! . . . Kaallee! . . ."

The excited cry, which no human throat could quite have duplicated accurately, arose thinly from the depths of a powder-dry gulch, water-scarred from an inconceivable antiquity. The noon-

day Sun was red and huge. The air was tenuous, dehydrated, chill.

"Kaallee! . . . Tik, tik, tik! . . ."

At first there was only one voice uttering those weird, triumphant sounds. Then other vocal organs took up that trilling wail, and those short, sharp chuckles of eagerness. Other questioning, wondering notes mixed with the cadence. Lacking qualities identifiable as human, the disturbance was still like the babble of a group of workmen who have discovered something remarkable.

The desolate expanse around the gulch, was all but without motion. The icy breeze tore tiny puffs of dust from grotesque, angling drifts of soil, nearly waterless for eons. Patches of drab lichen grew here and there on the up-jutting rocks, but in the desert itself, no other life was visible. Even the hills had sagged away, flattened by incalculable ages of erosion.

At a mile distance, a crumbling heap of rubble arose. Once it had been a building. A gigantic, jagged mass of detritus slanted upward from its crest—red debris that had once been steel. A launching catapult for the last space ships built by the gods in exodus, perhaps it was—half a million years ago. Man was gone from the Earth. Glacial ages, war, decadence, disease, and a final scattering of those ultimate superhumans to newer

worlds in other solar systems, had done that.

"Kaallee! . . . Tik, tik, tik! . . ." The sounds were not human. They were more like the chatter and wail of small desert animals.

But there was a seeming paradox here in the depths of that gulch, too. The glint of metal, sharp and burnished. The flat, streamlined bulk of a flying machine, shiny and new. The bell-like muzzle of a strange excavator-apparatus, which seemed to depend on a blast of atoms to clear away rock and soil. Thus the gulch had been cleared of the accumulated rubbish of antiquity. Man, it seemed, had a successor, as ruler of the Earth.

Loy Chuk had flown his geological expedition out from the far lowlands to the east, out from the city of Kar-Rah. And he was very happy now—flushed with a vast and unlooked-for success.

He crouched there on his haunches, at the dry bottom of the Pit. The breeze rumbled his long, brown fur. He wasn't very different in appearance from his ancestors. A foot tall, perhaps, as he squatted there in that antique stance of his kind. His tail was short and furred, his undersides creamy. White whiskers spread around his inquisitive, pink-tipped snout.

But his cranium bulged up and forward between shrewd, beady eyes, betraying the slow heritage of time, of survival of the fittest, of evolution. He could think and dream and invent, and the civil-

ization of his kind was already far beyond that of the ancient Twentieth Century.

Loy Chuk and his fellow workers were gathered, tense and gleeful, around the things their digging had exposed to the daylight. There was a gob of junk—scarcely more than an irregular formation of flaky rust. But imbedded in it was a huddled form, brown and hard as old wood. The dry mud that had encased it like an airtight coffin, had by now been chipped away by the tiny investigators; but soiled clothing still clung to it, after perhaps a million years. Metal had gone into decay—yes. But not this body. The answer to this was simple—alkali. A mineral saturation that had held time and change in stasis. A perfect preservative for organic tissue, aided probably during most of those passing eras by desert dryness. The Dakotas had turned arid very swiftly. This body was not a mere fossil. It was a mummy.

"Kaallee!" Man, that meant. Not the star-conquering demigods, but the ancestral stock that had built the first machines on Earth, and in the early Twenty-first Century, the first interplanetary rockets. No wonder Loy Chuk and his co-workers were happy in their paleontological enthusiasm! A strange accident, happening in a legendary antiquity, had aided them in their quest for knowledge.

At last Loy Chuk gave a soft, chirping signal. The chant of triumph ended, while instruments flicked in his tiny hands. The final instrument he used to test the mummy, looked like a miniature stereoscope, with complicated details. He held it over his eyes. On the tiny screen within, through the agency of focused X-rays, he saw magnified images of the internal organs of this ancient human corpse.

What his probing gaze revealed to him, made his pleasure even greater than before. In twittering, chattering sounds, he communicated his further knowledge to his henchmen. Though devoid of moisture, the mummy was perfectly preserved, even to its brain cells! Medical and biological sciences were far advanced among Loy Chuk's kind. Perhaps, by the application of principles long known to them, this long-dead body could be made to live again! It might move, speak, remember its past! What a marvelous subject for study it would make, back there in the museums of Kar-Rah!

"Tik, tik, tik! . . ."

But Loy silenced this fresh, eager chattering with a command. Work was always more substantial than cheering.

With infinite care—small, sharp hand-tools were used, now—the mummy of Ned Vince was disengaged from the worthless rust of his primitive automobile. With infinite care it was crated

in a metal case, and hauled into the flying machine.

Flashing flame, the latter arose, bearing the entire hundred members of the expedition. The craft shot eastward at bullet-like speed. The spreading continental plateau of North America seemed to crawl backward, beneath. A tremendous, sand desert, marked with low, washed-down mountains, and the vague, angular, geometric mounds of human cities that were gone forever.

Beyond the eastern rim of the continent, the plain dipped downward steeply. The white of dried salt was on the hills, but there was a little green growth here, too. The dead sea-bottom of the vanished Atlantic was not as dead as the highlands.

Far out in a deep valley, Kar-Rah, the city of the rodents, came into view—a crystalline maze of low, bubble-like structures, glinting in the red sunshine. But this was only its surface aspect. Loy Chuk's people had built their homes mostly underground, since the beginning of their foggy evolution. Besides, in this latter day, the nights were very cold, the shelter of subterranean passages and rooms was welcome.

The mummy was taken to Loy Chuk's laboratory, a short distance below the surface. Here at once, the scientist began his work. The body of the ancient man was put in a large vat. Fluids submerged it, slowly soaking from that hardened flesh

the alkali that had preserved it for so long. The fluid was changed often, until woody muscles and other tissues became pliable once more.

Then the more delicate processes began. Still submerged in liquid, the corpse was submitted to a flow of restorative energy, passing between complicated electrodes. The cells of antique flesh and brain gradually took on a chemical composition nearer to that of the life that they had once known.

At last the final liquid was drained away, and the mummy lay there, a mummy no more, but a pale, silent figure in its tatters of clothing. Loy Chuk put an odd, metal-fabric helmet on its head, and a second, much smaller helmet on his own. Connected with this arrangement, was a black box of many uses. For hours he worked with his apparatus, studying, and guiding the recording instruments. The time passed swiftly.

At last, eager and ready for whatever might happen now, Loy Chuk pushed another switch. With a cold, rosy flare, energy blazed around that moveless form.

For Ned Vince, timeless eternity ended like a gradual fading mist. When he could see clearly again, he experienced that inevitable shock of vast change around him. Though it had been dehydrated, his brain had been kept perfectly intact through the ages, and now it was restored.

So his memories were as vivid as yesterday.

Yet, through that crystalline vat in which he lay, he could see a broad, low room, in which he could barely have stood erect. He saw instruments and equipment whose weird shapes suggested alienness, and knowledge beyond the era he had known! The walls were lavender and phosphorescent. Fossil bone-fragments were mounted in shallow cases. Dinosaur bones, some of them seemed, from their size. But there was a complete skeleton of a dog, too, and the skeleton of a man, and a second man-skeleton that was not quite human. Its neck-vertebrae were very thick and solid, its shoulders were wide, and its skull was gigantic.

All this weirdness had a violent effect on Ned Vince—a sudden, nostalgic panic. Something was fearfully wrong!

The nervous terror of the unknown was on him. Feeble and dizzy after his weird resurrection, which he could not understand, remembering as he did that moment of sinking to certain death in the pool at Pit Bend, he caught the edge of the transparent vat, and pulled himself to a sitting posture. There was a muffled murmur around him, as of some vast, un-Earthly metropolis.

"Take it easy, Ned Vince. . . ."

The words themselves, and the way they were assembled, were old, familiar friends. But the tone was wrong. It was high, shrill, parrot-like, and mechan-

ical. Ned's gaze searched for the source of the voice—located the black box just outside of his crystal vat. From that box the voice seemed to have originated. Before it crouched a small, brownish animal with a bulging head. The animal's tiny-fingered paws—hands they were, really—were touching rows of keys.

To Ned Vince, it was all utterly insane and incomprehensible. A rodent, looking like a prairie-dog, a little; but plainly possessing a high order of intelligence. And a voice whose soothingly familiar words were more repugnant somehow, simply because they could never belong in a place as eerie as this.

Ned Vince did not know how Loy Chuk had probed his brain, with the aid of a pair of helmets, and the black box apparatus. He did not know that in the latter, his language, taken from his own revitalized mind, was recorded, and that Loy Chuk had only to press certain buttons to make the instrument express his thoughts in common, long-dead English. Loy, whose vocal organs were not human, would have had great difficulty speaking English words, anyway.

Ned's dark hair was wildly awry. His gaunt, young face held befuddled terror. He gasped in the thin atmosphere. "I've gone nuts," he pronounced with a curious calm. "Stark—starin'—nuts. . . ."

Loy's box, with its recorded English words and its sonic de-

tectors, could translate for its master, too. As the man spoke, Loy read the illuminated symbols in his own language, flashed on a frosted crystal plate before him. Thus he knew what Ned Vince was saying.

Loy Chuk pressed more keys, and the box reproduced his answer: "No, Ned, not nuts. Not a bit of it! There are just a lot of things that you've got to get used to, that's all. You drowned about a million years ago. I discovered your body. I brought you back to life. We have science that can do that. I'm Loy Chuk. . . ."

It took only a moment for the box to tell the full story in clear, bold, friendly terms. Thus Loy sought, with calm, human logic, to make his charge feel at home. Probably, though, he was a fool, to suppose that he could succeed, thus.

Vince started to mutter, struggling desperately to reason it out. "A prairie dog," he said. "Speaking to me. One million years. Evolution. The scientists say that people grew up from fishes in the sea. Prairie dogs are smart. So maybe super-prairie-dogs could come from them. A lot easier than men from fish. . . ."

It was all sound logic. Even Ned Vince knew that. Still, his mind, tuned to ordinary, simple things, couldn't quite realize all the vast things that had happened to himself, and to the world. The scope of it all was too

staggeringly big. One million years. God! . . .

Ned Vince made a last effort to control himself. His knuckles tightened on the edge of the vat. "I don't know what you've been talking about," he grated wildly. "But I want to get out of here! I want to go back where I came from! Do you understand—whoever, or whatever you are?"

Loy Chuk pressed more keys. "But you can't go back to the Twentieth Century," said the box. "Nor is there any better place for you to be now, than Kar-Rah. You are the only man left on Earth. Those men that exist in other star systems are not really your kind anymore, though their forefathers originated on this planet. They have gone far beyond you in evolution. To them you would be only a senseless curiosity. You are much better off with my people—our minds are much more like yours. We will take care of you, and make you comfortable. . . ."

But Ned Vince wasn't listening, now. "You are the only man left on Earth." That had been enough for him to hear. He didn't more than half believe it. His mind was too confused for conviction about anything. Everything he saw and felt and heard might be some kind of nightmare. But then it might all be real instead, and that was abysmal horror. Ned was no coward—death and danger of any ordinary Earthly kind, he could have faced bravely. But the loneliness here, and the utter

strangeness, were hideous like being stranded alone on another world!

His heart was pounding heavily, and his eyes were wide. He looked across this eerie room. There was a ramp there at the other side, leading upward instead of a stairway. Fierce impulse to escape this nameless lair, to try to learn the facts for himself, possessed him. He bounded out of the vat, and with head down, dashed for the ramp.

He had to go most of the way on his hands and knees, for the upslanting passage was low. Excited animal chucklings around him, and the occasional touch of a furry body, hurried his feverish scrambling. But he emerged at last at the surface.

He stood there panting in that frigid, rarefied air. It was night. The Moon was a gigantic, pock-marked bulk. The constellations were unrecognizable. The rodent city was a glowing expanse of shallow, crystalline domes, set among odd, scrub trees and bushes. The crags loomed on all sides, all their jaggedness lost after a million years of erosion under an ocean that was gone. In that ghastly moonlight, the ground glistened with dry salt.

"Well, I guess it's all true, huh?" Ned Vince muttered in a flat tone.

Behind him he heard an excited, squeaky chattering. Rodents in pursuit. Looking back, he saw the pinpoint gleams of

countless little eyes. Yes, he might as well be an exile on another planet—so changed had the Earth become.

A wave of intolerable homesickness came over him as he sensed the distances of time that had passed—those inconceivable eons, separating himself from his friends, from Betty, from almost everything that was familiar. He started to run, away from those glittering rodent eyes. He sensed death in that cold sea-bottom but what of it? What reason did he have left to live? He'd be only a museum piece here, a thing to be caged and studied. . . .

Prison or a madhouse would be far better. He tried to get hold of his courage. But what was there to inspire it? Nothing! He laughed harshly as he ran, welcoming that bitter, killing cold. Nostalgia had him in its clutch, and there was no answer in his hell-world, lost beyond the barrier of the years. . . .

Loy Chuk and his followers presently came upon Ned Vince's unconscious form, a mile from the city of Kar-Rah. In a flying machine they took him back, and applied stimulants. He came to, in the same laboratory room as before. But he was firmly strapped to a low platform this time, so that he could not escape again. There he lay, helpless, until presently an idea occurred to him. It gave him a few crumbs of hope.

"Hey, somebody!" he called.

"You'd better get some rest, Ned Vince," came the answer from the black box. It was Loy Chuk speaking again.

"But listen!" Ned protested. "You know a lot more than we did in the Twentieth Century. And—well—there's that thing called time-travel, that I used to read about. Maybe you know how to make it work! Maybe you could send me back to my own time after all!"

Little Loy Chuk was in a black, discouraged mood, himself. He could understand the utter, sick dejection of this giant from the past, lost from his own kind. Probably insanity looming. In far less extreme circumstances than this, death from homesickness had come.

Loy Chuk was a scientist. In common with all real scientists, regardless of the species from which they spring, he loved the subjects of his researches. He wanted this ancient man to live and to be happy. Or this creature would be of scant value for study.

So Loy considered carefully what Ned Vince had suggested. Time-travel. Almost a legend. An assault upon an intangible wall that had baffled far keener wits than Loy's. But he was bent, now, on the well-being of this anachronism he had so miraculously resurrected—this human, this Kaallee. . . .

Loy jabbed buttons on the black box. "Yes, Ned Vince," said the sonic apparatus. "Time-travel. Perhaps that is the only

thing to do—to send you back to your own period of history. For I see that you will never be yourself, here. It will be hard to accomplish, but we'll try. Now I shall put you under an anesthetic. . . ."

Ned felt better immediately, for there was real hope now, where there had been none before. Maybe he'd be back in his home-town of Harwich again. Maybe he'd see the old machine-shop, there. And the trees green-ing out in Spring. Maybe he'd be seeing Betty Moore in Hurley, soon. . . . Ned relaxed, as a tiny hypo-needle bit into his arm. . . .

As soon as Ned Vince passed into unconsciousness, Loy Chuk went to work once more, using that pair of brain-helmets again, exploring carefully the man's mind. After hours of research, he proceeded to prepare his plans. The government of Kar-Rah was a scientific oligarchy, of which Loy was a prime member. It would be easy to get the help he needed.

A horde of small, grey-furred beings and their machines, toiled for many days.

Ned Vince's mind swam gradually out of the blur that had enveloped it. He was wandering aimlessly about in a familiar room. The girders of the roof above were of red-painted steel. His tool-benches were there, greasy and littered with metal filings, just as they had always been. He had a tractor to
(Concluded on page 258)





Predictions: 2001 A. D.

Since Amazing Stories holds a firm reputation as a sounding board for prophets of the future, the editors have asked a representative group of public figures for predictions on what each believes the world will be like in 2001 A.D.

You'll find their articles on the following pages. In only forty-five years you will be able to check on their accuracy!



PREDICTIONS: 2001 A.D.

Caesar's *NBC-TV* hour



By SID CAESAR

**Millions of television viewers unhesitatingly name
Sid Caesar as America's foremost comedian**

MY WIFE and I have just turned on the wall in our bubble to watch a six-day spectacular on television. I just got back from work—in Saipan; and I must say the traffic over Hawaii was murder this morning. It was rocket to rocket all the way across the Pacific.

After dinner, our grandchildren are running down to Rio overnight in their jet—we keep all our planes in a three-jet garage under the bubble—to see a TV show which is auditioning new South American talent.

Crazy, you say? Weird? Unreal? Impossible?

No such thing.

Well, look at what electronics hath wrought.

Here we are in the second half of the twentieth century and the entertainment world of today would make our grandparents think they were visiting outer space.

Fact is, television has moved so fast in the past decade that you can't lie about its progress fast enough to keep up with the truth. And here I am, going way out on a limb talking about 45 years from now.

Well, let's take a look at what's happened to entertainment in the past fifty years—and then look ahead. I can't remember back that far, but a half century ago it was real big if a family got to the theater three or four times a year. Each of these visits—to see Bernhardt, or Caruso, or Skinner—would give the family enough to talk about for three or four months. The Bernhardts, the Ellen Terrys, the DeWolfe Hoppers and Otis Skinners were put on a pedestal by their far-away public and distantly admired; the worlds of the public and the entertainer were so far apart that they virtually never met. The theater and the opera

were distinct luxuries, not immediately available as they became later.

Vaudeville helped bridge this gap between the entertainer and the public; as minstrels, chautauquas and other shows started traveling to places where legitimate programs and the opera had never been before. The pedestal became a little lower; entertainers were getting a little closer to the public.

But entertainment was still a luxury—and it continued to be even in the next several decades when the silent movie flashed across the national scene. The “flickers,” throughout their career and continuing even into the present, were never able to break down the barrier. In their early days, they continued to be a family luxury; going to the silents was a ritual; and everyone in the family had their night for attending. The motion picture houses that displayed these pictures were built like palaces—many of them were even called “Palace.” It was a privilege, not a right, to be able to go to one—and if you did, it was an event involving much preparation, many hours of an afternoon or evening, and days upon days of discussion afterwards.

But then it happened—the “music box,” as the instrument known as radio was originally called. It changed the whole nature of entertainment; and although future historians will probably call radio just one step on the way to television it

wrought enormous changes—changes which paved the way for the performer to walk into your living room and claim your time. The radio shortly became an appliance—like water, or the electric light, or the living room chair. It was a piece of furniture—not a palace like the old opera house or the movie theaters, or the places of vaudeville. It was there. You could touch it. You could even pay for it on time. Imagine.

But intimate as the new medium became, it still lacked one element. You couldn't see them. You could hear them, you could laugh with them, cry with them, applaud with their unseen audience. But they weren't quite there with you.

Even home movies—the forerunner of TV—were a rarity. For instance, it was a really big deal for the family who could switch off the lights and flick on the 16-millimeter machine to show hours of movies of salmon swimming upstream.

Then ten years ago, came television—and suddenly everyone was a millionaire. They could go to the movies seven times a week, laugh with the comedians every night, cry with the daytime heroines five days out of seven. The barriers were down. Entertainers, performers, suddenly became real people. No more aristocracy, heroes-on-a-pedestal. Now the comedian was a person you either liked or didn't. You saw him in your living room and either you invited him back the

next week, or you didn't want him around any more. Not only that, but you began to know him by his first name. When you saw him on the street you walked up to him, shook his hand and said, "Your show last night was a dog, George." But you knew he'd look in on you next week to give him another chance to make friends.

How does it look from here on out? Well, with the portable, the transistor set, and machines small enough to carry in a briefcase which can project a picture on the wall of a house, it looks pretty good. Fellows like me, who used to be called "stars" in the 1950's, will be called "pals" by 2,000—and in full, natural color.

After taking a quick peek at the past fifty years, what can we expect of the next? Well, for one thing, the pocket TV set will be so common people will take it for granted. With a tremendous increase in the number of leisure hours available to all of us by Year 2,000 entertainment will tend to become infinitely more important than it is now. There

won't be a place, or kind of person on earth that every man will not have seen or listened to by the time he's old enough to understand what it's all about. Programs will be beamed to Earth from Space platforms on a regular basis, making intercontinental television as commonplace as the rocket. The wide, wide world will be the wider, wider universe and Einstein's theory of relativity will be understood by every schoolchild—because he will see it in action on his pocket TV set on the helicopter taking him to school.

The place of the entertainer in all this? Well, it won't be the same relationship as it once was—or even as it is today. The entertainer will be part of the chain of understanding, the interpreter to the public. He will be a friend whom everyone will know as intimately as he knows his own family.

It sounds fantastic—but I've designed my bubble and the family has ordered three jets for our new air-garage.

LEO CHERNE

As Executive Director of the Research Institute of America, Mr. Cherne carries the responsibility for the advice and guidance extended by the Institute to more than 30,000 member business concerns, professional men and representatives of our own and foreign governments.

ONE of the most dramatic elements of the year 2001 will be the virtually free, if not

entirely free, accessibility of power. I mean solar power. While atomic power will be in wide use,

it will cost some money, and will therefore be essentially limited to those specific purposes in which it is especially desirable, such as ground transportation or flight.

Power sources constitute an essential element in all economies today. They have been a major factor in the development of Man's civilization and by and large a restricting factor. Power can be furnished by anything from a wooden plow and a pair of shoulders, to coal or oil or water. Think, then, of the significance of free power extracted from the sun.



In several thousands of years of Man's development, he has been chained to the necessity of laboring with his own physical energy for survival. Not until the last 150 years has his burden been even partially lessened. In most parts of the world Man is no freer today than he was a hundred thousand years ago. In the breaking of these chains lies a revolution—the change which occurs when the earth and nature and the machine and the sun will

work for Man, instead of Man working for the earth.

One effect of breaking these chains of labor will be the reduction of the average American work week to 24 hours. The worker will spend six hours a day four days a week on the job. Three-fourths of his full day will be his own. It takes only a little knowledge of history to know how dramatic this effect will be, for this will be the first generation of Man that will be able to live at leisure—and remember, I am speaking of the *average* American.

Agriculture and its problems of surplus will be solved in the U.S. by chemistry with an assist from cheap or free solar power. The chemists will increasingly use greater amounts of farm produce as raw material for their infinite variety of substitutes, synthetics and wholly original materials and products which will be fashioned from them. The same will be true of coal—in fact, coal will become primarily a non-power industry.

Throughout the rest of the world, the time lag in technology, as it exists currently, will continue. In time, the differential in this area which exists between the U.S. and much of Africa and Asia may well be eliminated, and perhaps even our own technology exceeded. I doubt that this will happen in the next 45 years, but during that time the gap will narrow.

LILLY DACHE

Couturiere, casmetician, expert an fashions, Lilly Dache is a woman of great charm and style (as your editor can testify).

THE most outstanding thing I believe will strike the eye of the onlooker in the year 2001 will be the multiplicity of color. The streets of each city, the air above and the surface of the sea will gleam with colors, their variations and combinations. Both men and women will wear fabrics



made by chemistry—non-permeable to heat, cold, rain, or dirt. In fact, in connection with the latter it is quite possible that these plastic clothes will have a surface contra-magnetism which will make it impossible for dirt to remain. White will be worn in all seasons, as will pastels.

Nor is this all. Clothes will have to fit into a civilization in which rocket speeds will make Bali only a few hours distant; a trip to Alaska and to the South Seas could very well be feasible in one day. Yet the average man and woman of 2001 will be able to travel with a handbag no larger than today's typewriter case containing all the essentials for an extended stay.

Women will wear clothes whose design would today seem abstract and strange; yet they will be freer and closer to the

basic essentials: attraction, beauty, protection. Many of the taboos which today dictate what clothes will be worn will have been shed by 2001.

The fabrics? Made of spun glass, of air, of coal, of the very earth under our feet—inexhaustible sources of supply. Such commonplaces of today as wool and cotton will be far more rare in forty-five years. The effect of an enormous population, of the disappearance of servants, of a shorter work week—all will have their effect upon manners, morals, customs, and clothing.

I also foresee such changes as cosmetics which can be applied more skillfully than the average cosmetician can today, yet in a matter of seconds: hair sprays which will make hair either curly or straight in an instant, and new fads involving the use of gold dust, lacquers, and the like.

Yet some things will not change: perfume will still be perfume, and we will still have to go to the forest and the seas for the musk and the ambergris which surround the lovely female with her air of delicate and sensual enchantment.

Yes, some things will never change; they did not in 2001 B.C. nor will they in 2001 A.D. There will always be the difference between the sexes, and, as a famed Frenchman once said, "Vive la difference!"

JOHN CAMERON SWAYZE

Five evenings each week, John Cameron Swayze brings the news and his incisive comments into the homes of millions of TV viewers.

IN THE era of peace that is 2001 (for I believe that there will not have been a major war by that time), the dissemination of news all over the world will be intercontinental and instantaneous. So will T.V., whose transmission may originate from a space satellite which will circumnavigate the Earth in two hours.



I hope that great progress will have been made toward solving what seems to be today's impasse—the relationship between the Western allies, led by the U.S., and Russia and its satellites of the East. Even if a true solution

has not been worked out by 2001, we will see a definite lessening of tensions.

Because of the development of lightweight, low-priced private air transport—I extrapolate from today's "hopper" cities will become decentralized, and even more millions will move out of the teeming cities to the freedom of the suburbs beyond, suburbs which will extend two hundred miles and more from the urban centers. I also prophesy the disappearance of slums from all major western cities of the world.

There's not much chance that I'll be alive by 2001 (although medical science will help us all live longer) but if I am I would love to be able to travel to Honolulu from New York in perhaps two hours. In fact, the best thing I can say about 2001 A.D. is—I'd love to be around.

HUBERT J. SCHLAFLY

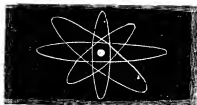
Vice President in charge of Engineering, Teleprompter Corp. Formerly, Director Television Research, 20th Century-Fox. During the war, Mr. Schlafly was an electronics engineer for General Electric Co., assigned to Radiation Laboratory at M. I. T.

TO MAKE a prediction 45 years in advance in this fast moving age is a staggering assignment. When we consider the vast amount of scientific and engineering talent at work, and

the fact that seemingly insignificant details can open up completely new horizons of progress, the impossible becomes almost commonplace.

By the year 2001 A.D. indus-

trial power and food for all the peoples of the earth should be in plentiful supply. All repetitive and routine functions in industry, commerce and the home can be, and in many instances will be, completely automatic. Systematic information storage will be in a form instantly available for response to remote inquiry. The refinements of solid state electronics will permit devices of considerable complication to be packaged in amazingly small volume, having low power re-



quirements and exhibiting great resistance to mechanical damage. Communication—both personal

and group communication—will be highly refined, without the encumbrance of *any* wires to or between terminal devices. In fact this advanced state of *communication* may substantially reduce the need for *transportation*.

A final prediction, concerning the field of transportation, has to my knowledge, absolutely no basis in scientific fact. Rather it is an extrapolation of a progress trend. We can now transmit power over great distances by wire and even through space. We have transmitted intelligence—starting with dot and dash codes, then the human voice, and now living pictures. Perhaps by 2001 we may be in the dot and dash stages of the electrical transmission of solid matter.

Let us all hope and pray that this bright future in our physical world is matched by the cultural and spiritual development of our relations with God and man.

GENERAL CARLOS ROMULO

World-famous author, soldier, statesman, General Carlos Romulo is the Philippines' delegate to the United Nations.

FIRST of all, I believe that the United Nations will have been such a success that it will have developed into a real world organization. By 2001, there will be World Law.

Since I do not believe that war is inevitable, I feel that by 2001, there will be real peace. Nuclear weapons have proved that they can destroy not only cities, not only nations, but whole conti-

nets. In the face of such a threat, war is insanity.

There will be a revolutionary system of world education, which will ultimately lead to world citizenship. Today such citizenship is only an ideal—but tomorrow, it may be an actuality. Every such idea has four stages: Gestation, Creation, Realization, and Appreciation. In 1956, we are gestating the ideal of the

great and peaceful world state; by 2001, it will not be fully Appreciated, but may well have reached the beginning of the stage of Realization.



Forty-five years from now, we will have reached a point where we know what is on the Moon. I do not think that Man will be on the Moon by that time, that there will as yet be any interplanetary travel, but such a development will be well on its way.

Colonialism on this world will have ended. But the United Nations will face a new problem—the claims of nations to the rights and privileges pertaining to ownership of part or all of the Moon and other planetary bodies. The eyes of the nations will be fastened on who and what owns outer space. Nations may dream of the hidden treasures which await us in outer space, and the peaceful settlement of

such claims will engage the resources of the United Nations.

Through advances in medicine, the life expectancy of the peoples of the world will be greatly extended. This will lead to vastly increased populations, for even now the population of Terra increases by 35 million per year, and by 2001, there may well be an annual increase of 100 million. But the pressure of world population will be matched by the advance of technology—and will be solved or assuaged by technical changes which will produce more goods, more food, and more of everything the peoples of the earth will need.

What we boast of in material possessions today, will be as archaic in 2001 as the wall telephone of 45 years ago is today. Were I to live in 2001, I might perhaps be able to talk to Manila from New York with something which I have in my pocket.

The labor saving devices which have come in such beneficent floods from our laboratories, drawing boards, and factories will continue to appear, in greater quantity, and in such variety that today's dream may become tomorrow's actuality.

OLIVER J. DRAGON

Philosopher, bon vivant, patron of the arts, the season's most eligible bachelor, and star of TV's Kukla, Fran and Ollie show.

I'M GLAD. Just glad. I'm pretending it is now the year 2001 and I'm on the way to the moon. It isn't hard really. Drag-

ons of yore could fly—as all the ancients legends about dragonry will prove. The modern-day dragons, who become so important on

earth, lost their flying power somewhere along the line, but in the really olden days eons ago—I mean 'way before even Kukla can remember—dragons were all air-borne.



And now that it's the year 2000 we're up there again, whisking about in inter-planetary space and checking up on Buelah Witch. Sure, witches have been able to fly forever; and you know when Buelah used to disappear from the earth she would come back and *say* that she'd been up to the moon, but none of us was sure. Of course, she did bring back green cheese

each time, but that's pretty flimsy evidence. Even today, in 1956, we know there's no green cheese on the moon—I understand it's more like a sharp cheddar. Anyway, in 2001 I will be able to check up on Buelah, see if she's really been there. We'll all go. Dolores—she'll be able to fly, too. And naturally we'll bring Fran and Kukla and the rest of the gang.

Here's another problem I'll be able to settle. When we dragons become air-borne again, it will be easy to get to the moon. We all know that there is no habitation on the side of the moon that faces the earth, but how do we know what's on the other side? I'm going to find out. I'm going to land on the far side and check up. Buelah just won't say; and to tell you the truth, I'm not sure she's ever *been* to the other side. Or even this side, for that matter.

Well, that's it, chaps. See you on the far side of the moon.

HERB SCORE

Cleveland Indians' ace southpaw; strike-out leader, American League, 1955; Rookie of the Year, American League, 1955.

HERE we are in Washington waiting for the opening of the baseball season in the year 2001. The President is ready to throw out the first ball and the people are pouring into the stadium.

The weather is cold and rain is

falling heavily as it has been all through the night; yet the stands are full and the pitchers are just finishing warming up. A plastic dome covering the stadium makes it possible to play in any kind of weather.

Parking is no problem here in

the year 2001 as helicopters carrying one hundred passengers



each land on the stadium roof every five minutes. There are no concession stands to be seen in

the ball park, no shrill-voiced hawkers of peanuts, hot dogs and beer, as there are vending machines with food and drinks on the back of every seat.

The President throws out the first ball and the game is ready to begin. Now the pitcher winds up and fires the first pitch and the umpire calls "strike one" as a roar of boos and whistles arises from the crowd. Yes, conditions have changed but the Game's the same.

OLIVER READ

**Assistant Publisher and Editor of *Radio & Television News*,
the world's leading electronics magazine.**

HAVING spent my entire career (some 35 years) in various phases of the electronic industry, I look for the following in the year 2001. The more obvious facts are:

INDUSTRY: The era of automation will be at its height. The fabrication of all items will be done by electronically controlled machines.

TRANSPORTATION: All rail and plane transportation will be radio-controlled. Planes all loaded with passengers will be able to take off from New York for California completely operated by electronics from take-off to landing.

FREIGHT: All long distance shipping will be via remotely controlled rockets. Completely laden with freight, these rockets will span the nation—in fact,

continents—via radio-controlled operations.

HOME: It will be a fabulous place in which to live. Your TV screen will be a thin plastic sheet mounted to a wall and will provide life-size, three-dimensional reproduction. TV will be a normal part of all telephone installations. All present-day appliances will be electronically operated. Solar radiation will provide electric current. Atomic energy will supply heat.



COMMUNICATIONS: Cross-country communication lines will be

obsolete. Microwave relays will span the nation.

With regard to the unobvious, one could pick out any fantastic idea and the chances are it would be a probability in the future.

SATELLITES: Rocket ships travelling around the world to outer space, in fact trips to the Moon or Mars, should be a reality. All of these must be tied in with electronics. Communications and even television transmissions direct from the planets to our country should be assured.

ANTI-GRAVITY: Work is even progressing today on developing equipment that would counteract gravitation. This, when finally developed, will obviously tie in with electronics. One will literally float from place to place.

EXTRA - SENSORY PERCEPTION: One of the more frightening of all possibilities is the development of electronic equipment to pick up thought waves. Imagine what this world would be like if every thought that enters one's mind could be picked up, transmitted, and received by any individual.

All in all, it may frighten one to look ahead. One thing is a fact and that is that progress cannot be stopped and so long as progress continues, civilization must be for the better. So, this is the year 2001. I, no doubt, will not be around, but one thing is assured: **RADIO & TELEVISION NEWS** will be here to report on all of these developments.

WILLIAM STEIG

One of the small, select group of American cartoonists whose works take on a significance far beyond the realm of humor.

MOST likely, by the year 2001, (perhaps I am being a bit impatient), the majority of



people will no longer be the comic strip characters they

are today; and "cartooning" (thank God!) will be almost a lost art. Laughter will be an expression more of joy than of ridicule. If things are laughed at, it will be because they deviate from the natural rather than, as today, because they deviate from established ways. Humanity will be *on the way* to realizing the kind of life we all dream of in adolescence (and give up dreaming of shortly thereafter)—a rational life lived in harmony with nature.

PHILIP WYLIE

One of America's foremost novelists—and iconoclasts—
Mr. Wylie is one of *Amazing Stories'* charter readers.



A POSSIBLE prediction for
the world in the year 2001,
is

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A. W. ZELOMEK

President, International Statistical Bureau, Inc.

IF ANYONE could be transplanted instantaneously into the year 2001, what would probably amaze him most would be the great mobility of the population and the great increase in the pursuit of personal activities. This will have been made possible by a four day work week, vacations of a month a year for the average wage earner, and a further marked increase in the speed and flexibility of travel and communication.

A population of about 310 million will be supporting itself in the United States, with a greatly increased standard of living, with less effort and fewer hours of work. Total national income will exceed one trillion dollars by a substantial margin, and the average family of four will have an income of close to \$20,000 a year, in terms of 1955 dollars.

Such expectations do no more

than project trends of long-standing. Wars, in the past, have caused substantial dislocations of gross national product and national income, as well as marked changes in the price level. Among the most impressive facts of economic history, however, are:

a) the constancy with which regular annual increases in production, and in production efficiency, have been maintained over long periods of time.

b) the regularity with which declines in the purchasing power of the dollar, caused by general price increases, have been more than offset by increases in the number of dollars in the hands of the public.

In our present state of advanced economic knowledge, there is a better chance than ever before that the historic rise in living standards will continue.

SALVADOR DALI

**Internotionally famous exponent of surreolism, Solvador Doli
is perhaps the only friend and defender of the rhinoceros.**

I believe that art and science will have merged by 2001. Art is the reflection of the complete dis-



continuity of matter; science is its proof. By 2001, the artists, sculptors, and painters of that day will be able to portray this discontinuity in a new kind of explosive harmony.

The secret of this harmony is to be seen today in cosmic radiation. All beauty is terrible; and that radiation is at once both beautiful and terrible is to be seen in the natural portrayal of atomics in the cauliflower and the rhinoceros horn. Beauty is

mathematical too—I refer you to the works of Bach—and the beauty of the logarithmic curve of the rhinoceros horn, with its repetition in the internal cedillas of the cauliflower can be seen by the aware eye of today, and *will* be seen, and acted upon, by the awakened artists of 2001.

Nor is this all: cosmic radiation, it is now evident, is causing the downfall of the rigidity which for so long has afflicted Man and his works. All things—from architecture, to politics, to gastronomy—in which Man has immersed himself are becoming soft, fluid, ungeologic. By 2001, such things will have lost their final rigidity, and have gained, instead, the unity which is to be found in cosmic radiation, the cauliflower, the rhinoceros horn. They will have realized that the secret of life, of art, and of power is viscosity.

DR. N. GONZALEZ

**Director of Research for the Eagle Pencil Company, world's
largest manufacturers of quality lead pencils.**

IN 2001 we may skim to work on flying platforms, heat our homes and cook our food with solar furnaces, or spend vacations on nearby planets.

If we do, you can be sure that these products of the future will have been designed by men using an instrument which has undergone little basic change in the

past 100 years—the wood cased lead pencil.

The lead pencil in the hands of creative man has been at the genesis of all technological advance in our era. And it will remain so in years to come.

I predict that in the year 2001,



the lead pencil will be substantially the same as it is today.

Why? Because today's pencil

is perfectly designed and does its job faultlessly.

By this I do not wish to imply that pencil manufacturers will sit back and ignore progress. Pencils are being constantly adapted to new uses. We also strive continuously to produce smoother writing, longer wearing products.

Basically, however, the pencil is so simple and efficient in its present form that no striking changes in it are likely over the next half century. And it will continue to be the prime mover in all great forward strides executed by the mind and hand of man.

STEVE ALLEN

As the star of the NBC-TV program "Tonight," Steve Allen keeps more folks awake than caffeine. He is also currently starring in the Universal picture, "The Benny Goodman Story."

TELEVISION in 2001 A.D. should be the fulfilment of the wildest dreams—and then some. I foresee all-color TV, in 3-D (or 4-D), with stereophonic



sound, screens that run the length of living-rooms, and co-axial cables that run to the Moon and back. They'll be doing "remotes" from Mars, most likely,

and it wouldn't surprise me to see Pinky Lee em-ceeding "Life Begins at 80" and NBC doing "The Wide, Wide Universe."

Television comedy should be just like comedy has always been; people will say that "the new jokes aren't like the old jokes," and some bright young comic will suddenly emerge from anywhere and knock 'em dead on the Inter-stellar Network. As for commercials, I'll be willing to lay five to one that people will still complain about them. In case you get impatient, remember that 2001 A.D. is only 45 years away.

PREDICTIONS: 2001 A.D.

DR. ROBERT LINDNER

Dr. Lindner is a prominent psychiatrist and the author of the recent best-seller: "The Fifty-Minute Hour."

THE incidence of neurosis arising from intra-personal causes will remain the same in 2001 as it does today. However, those arising from social factors will have decreased markedly, for by 2001, many of our political difficulties will have been worked through, one way or the other. The really great catastrophe would be for us to



succumb universally to a worldwide totalitarianism as the result of conquest by war or ideology. In this case, the situation would connote a condition of worldwide psychopathy which must lead to a reversion to barbarism. Eventually out of this barbarism a new culture would be born. Therefore on all counts the outlook for 2001 will be relatively favorable.

The future of chemotherapy for the neurotic and the psychotic is visible in the patterns they have assumed today. Chemotherapy cannot *solve* problems; it can only cause one to react less strenuously to them. This, of course, is a ma-

jor advantage, but it should be understood that the *solution* lies in another direction—in the direction of assiduously working out problems.

The larger the area of consciousness or awareness, the less the area of unconscious—or irrational—behavior. This is what Freud meant when he said, "The voice of reason is soft but insistent." With the increase of consciousness, which is really what all of us are trying to achieve, new and possibly undreamed-of potentialities of the human mind will be disclosed.

I am of the opinion that we possess many more capacities and capabilities than we now use. As mind (consciousness) grows, these will achieve a kind of flowering. Whether this will take the special directions of telepathy, telekinesis, teleportation and the like, I do not know, but special talents are bound to occur and lead to revolutionary changes in the individual and in society.

The situation as regards crime in the year 2001 is difficult to determine, because so much depends on the political-social conditions obtaining at that time. If current psychopathic tensions are not properly solved by then, the activities we

call "criminal" today will certainly continue. On the other hand, if social-political tensions have been resolved, there will be very little crime, excepting, of course, that of an intra-personal nature. This can never be eliminated wholly since it depends on factors that vary with the

degree of consciousness the persons involved have obtained.

In summation, then: there is a veritable race on between forces seeking to contract and those seeking to expand Man's awareness of himself. His future will depend on which win that race.

SUMMING UP . . .

by THE EDITORS

...well, there you have it—the world of 2001 A.D., as seen by sixteen authorities, leaders in their fields. To the editors, the most surprising thing about these sixteen articles has been the unity of the picture they present:

...A world in which the streets of a town or city will look like a flower garden, bright with the colors worn by both men and women—clothes thin, almost weightless, yet completely adaptable to external temperatures. Look up—to see the swarms of commuters leaving in their personal air cars for their homes, where they can settle down for an evening with the Tri-V, as perhaps the three-dimensional, full-color television set is called. From those people up there, messages are flashing between commuter and home, and office, and date. It's only afternoon, for in this six-hour, four-day working week, everyone gets off early enough to have some fun in the sun—and on week-ends, to rocket off to Bali,

perhaps—certainly to Paris and Rome—for the three-day rest.

Lots more people stay at home, though—because many more people have discovered hobbies. Curiously enough, in this world of super-mechanization and automation, more things are made by hand than since the beginning of the Twentieth Century: there are so many do-it-yourself addicts. It's a world of peace—although international affairs will still have an uneasy air.

In the laboratories, physicians and technicians will be working on longevity—the infectious and degenerative illnesses having all but disappeared; in the laboratories here on Earth and on the satellite overhead, scientists learn more of their universe. Man will be working on the transmission of matter. He may well be on the surface of the Moon.

Does this picture look familiar?... It should. It's what the better science-fiction writers have been prophesying for the

past twenty years. But now—these are predictions by *realists* (with the exception of Mr. Dragon, of course)—authorities who have helped give the world the look it has today. So there's a good chance that the world of

forty-five years in the future will look very much like the preceding articles have outlined—and all of us here hope that every one of our readers will be around in 2001 A.D. to enjoy it.

THE BEGINNING!

THE FIRST SCIENCE-FICTION STORY

By S. M. RITTER

ANTEDATING even Jules Verne was the book "The Voyage to the Other End of the World." In all probability this was the first science fiction story ever written and it appeared in manuscript form about 1540 from the pen of an unknown German writer.

In theme "The Voyage to the Other End of the World" simulated Verne's book on rapid communication, "Around the World in Eighty Days." A young noble who had been dabbling in the forbidden arts and sciences, goes the story, was threatened with excommunication by the Archbishop of Paris. The threat angered the youth and he boasted that with his new found knowledge he could travel faster than man had ever dreamed of. The Archbishop sent the church police to arrest the noble but he fled to a seaport town of France where he built a huge ship motivated by heat. In this vessel, the *Forbidden*, with three companions of like mind, he reached the New World in three weeks' time.

After numerous hair raising adventures with the natives the heroes escaped thru the use of a fire gun. This seems to have been a sort of bellows that blew forth flames in a thin but fierce stream. The return voyage took about three weeks but this time the adventurers landed in Germany. They were betrayed and carried off to Paris. There, accused of witchcraft, the four adventurers were burned at the stake.

Circulation of the manuscript once reached either six or sixteen copies but was banned by the Vatican. It came to light again in 1867 but was destroyed, accidentally or otherwise, about 1880. Hartmann's "German Literature of the Fifteenth and Sixteenth Centuries" recounts the story and the fate of the manuscript or manuscripts with considerable detail.

CONTEST WINNER!

HERE IS TOMORROW . . .

By CLARENCE W.
VAN TILBURG

ASSUMING that our civilization will not be destroyed, the year 2001 will see:

IN MEDICINE

(a) Great strides in mental therapy. "Psi" professions operating on solid premises.

(b) Banking of human organs; artificial culture of tissues; universal extension of preventive medicine. Life expectancy 88 for women, 80 for men in USA and many other countries. World average 70.

IN POLITICS

(a) USA, USSR, INDIA and CHINA the BIG FOUR.

(b) India out of British Commonwealth and leader in Asian Commonwealth composed of India, Pakistan, Indonesia, Burma, Malaya, Ceylon, Thailand and Persia.

(c) All Central America coalesced into single political unit.

IN SCIENCE, INDUSTRY AND TECHNOLOGY

(a) Maximum work-week twenty hours in USA and Canada. In other areas lesser but great reduction in work hours. Corresponding increase in living standards.

(b) Greatest single industry: catering to mankind's leisure, amusement and pleasure.

(c) USA and USSR have manned satellites from which they have reached the Moon.

(d) Mankind begins in earnest to mine the seas, both for food and scarce elements.

(e) Desalted sea water used for irrigation and industrial purposes.

(f) Direct conversion of sunlight into power and synthesis of food on commercial scales.

(g) Atomic power in world-wide use.

(h) Long-distance passenger travel almost wholly by air—at supersonic speeds.

(i) Privately-owned helicopters commonly used; Every large building a heliport.

(j) Plastics, glass and light metals common in building construction.

(k) Moving sidewalks for pedestrians and belt conveyors for freight common.

(l) Short-wave cooking almost universal.

(m) Great increase in range of telescopes, but determination of boundaries of the universe still undetermined.

CONTEST WINNER!

LET'S GET OUT THE VOTE— IN 2001 A. D.



By
IRVING DRUCKER

THE year 2001 will bring fundamental changes in politics. With the saturation point having been reached in television coverage and with phonovision an accomplished fact, a speaker's image will invariably accompany the sound of his voice.

It logically follows, then, that the candidate for high governmental office will have to appeal to the voter's eye as well as his ear. This is of course to a great extent true today and already the huckster is taking over the political campaign.

In the year 2001, he will no doubt have come into his own as the political boss. The old-time king-maker, the shrewd behind-the-scenes manipulator, the ruthless party boss will by that time be as dead as the Caesars and in his place will stand the showman.

The president-maker of 2001 will be a mixture of DeMille, Ed Sullivan, Arthur Godfrey and Tennessee Williams, incorporating the exploitation skills of each. Presidential timber will be selected first with an eye to visual appeal and aspirants with poor television personalities need not apply. Diction and convincing presentation will be of more importance than statesmanship, high ideals, and clear thinking.

So it follows that the president, the senator, the representative of 2001 will have more of the qualifications of Spencer Tracy than of Abraham Lincoln; more of Clark Gable's instinct for the drama than of George Washington's instinct for statesmanship.

It can not be unequivocally stated that these future public servants will necessarily be men of poor political ability, but certainly such ability will be of secondary importance to the party "brains" seeking to get them elected.

Except for one element of the picture that is difficult to tamper with. The good sense of the people.

May it prevail in 2001 as it does in 1956.

CONTEST WINNER!

ARMAGEDDON

—2001 A. D.

By

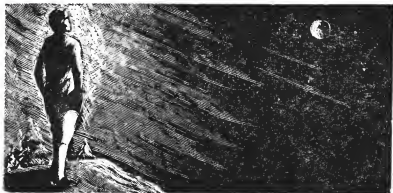
B. W. SANDEFUR

THE earth is gone but the loss of it saddened few of the angels for the dull green glow that was earth is now replaced with a beautiful pattern of color—a vast improvement over the planet prior to the DAY.

It was exactly two months before Easter when the first public acknowledgement was made, seven years after the first sighting. The joint heads of the Combined Alliance made the statement and headlines reverberated around the world. "Cancer in the Atmosphere," "Cosmic Window Appears"; one of the more ludicrous publications chose to ridicule, "Run for Your Lives, the Sky is Falling."

However, scientists had attacked the problem with less humor. As best they could theorize man himself was responsible. In the testing of his beautifully destructive devices he subjected his atmosphere to trauma. It was almost as if the envelopment of the earth were part of man himself. As the cancer of destruction ate at the soul of man the same lesion chewed away the cushion between him and space.

It hadn't come as it had been popularized back in the fifties, as a gigantic chain reaction shooting off instantly the whole of the atmosphere. It was more like a giant noma degenerating the skin of the earth before it like the epithelium of man. And in the wake of degenerating elements poured through the cosmic radiation, more destructive than man had ever conceived. After seven years of constantly shifting layers of atmosphere the small initial lesion had metastasized until it had diffused throughout, constantly rotating like a huge kaleidoscope of destruction. Scientists worked feverishly to perfect a synthetic shield but the scope was beyond their comprehension. The best that could be done was to go underground. Within six weeks most of mankind had done this. Then it happened! One week before Easter the first people began to disappear. Rumbles of panic passed through the world chilling the hearts of all. By Wednesday the World Joint Scientific Committee issued a statement that the unusual disappearances were due to no strange religious phenomena as had been shouted by the fanatics. (They had fallen strangely silent, embarrassed that so many of them remained.) The committee said it was a form of cosmic molecular degeneration due to exposure. But by Sunday afternoon Man was no more. The earth had poured forth its bowels and had become a solar explosion.



AS I SEE TOMORROW ...

By

ROBERT HEINLEIN

When your editors began the task of assembling a representative list of famous personalities from whom predictions of the future should be asked, somebody said, "You're not forgetting Robert Heinlein, are you?"

Not, to coin a phrase, by a jugful! For you might say Mr. Heinlein's entire past has been spent in the future. His sixteen hard-cover novels, a staggering number of novelettes and short stories and articles, are in the vein of what Mankind can expect in the days to come—not only on this microcosm we call Earth, but the entire Universe as well.

THE THIRD MILLENNIUM OPENS

By

ROBERT HEINLEIN

NOW, at the beginning of the year 2001, it is time to see where we have been and guess at where we are going. A thousand years ago Otto III ruled the Holy Roman Empire, William the Conqueror was not yet born, and the Discovery of America was almost five hundred years in the future. The condition of mankind had not changed in most important respects since the dawn of history. Aside from language and local custom a peasant of 1000 B.C. would have been right at home in a village of 1001 A.D.

He would not be so today!

The major changes took place in the last two centuries, but the most significant change of all occurred in the last fifty years, during the lifetimes of many of us. In 1950 six out of ten persons could neither read nor write; today an illiterate person is a freak.

More people have learned to read and write in the past fifty years than in all the thousands of years preceding 1950.

This one change is more world-shaking than the establishment this last year of the laboratory outpost on Pluto. We think of this century just closed as the one in which mankind conquered

space; it would be more appropriate to think of it as the century in which the human race finally learned to read and write.

(Let's give the Devil his due; the contagious insanities of the past century—communism, xenophobia, aggressive nationalism, the explosions of the formerly colonial peoples—have done more to spread literacy than the efforts of all the do-gooders in history. The Three R's suddenly became indispensable weapons in mankind's bloodiest struggles—learn to read, or die. Out of bad has come good; a man who can read and write is nine-tenths free even in chains.)

But something else has happened as important as the ABC's. The big-muscled accomplishments of the past fifty years—like sea-farming, the fantastic multiplication of horsepower, and spaceships, pantographic factories, the Sahara Sea, reflexive automation, tapping the Sun—overshadow the most radical advance, i.e., the first fumbling steps in founding a science of the human mind.

Fifty years ago hypnotism was a parlor trick, clairvoyance was superstition, telepathy was almost unknown, and parapsychology was on a par with phre-

nology and not as respectable as the popular nonsense called astrology.

Do we have a "science of the mind" today? Far from it. But we do have—

A Certainty of Survival after Death, proved with scientific rigor more complete than that which we apply to heat engines. It is hard to believe that it was only in 1952 that Morey Bernstein, using hypnotic regression, established the personal survival of Bridget Murphy—and thereby turned the western world to a research that Asia and Africa had always taken for granted.

Telepathy and Clairvoyance for Military Purposes. The obvious effect was the changing of war from a "closed" game to an "open" game in the mathematical sense, with the consequence that assassination is now more important than mass weapons. It may well be that no fusion bomb nor plague weapon will ever again be used—it would take a foolhardy dictator even to consider such when he knows that his thoughts are being monitored . . . and that assassination is so much harder to stop than a rocket bomb. He is bound to remember that Tchaka the Ruthless was killed by one of his own bodyguard.

But the less obvious effect has been to take "secrecy" wraps off scientific research. It is hard to recall that there was once a time when scientific facts could not be freely published, just as it is hard to believe that our grand-

fathers used to wear things called "swimming suits"—secrecy in science and swimming with clothes on are almost equally preposterous to the modern mind. Yet clothing never hampered a swimmer as much as "classification" hampered science. Most happily, controlled telepathy made secrecy first futile, then obsolete.

But possibly the most important discovery we have made about ourselves is that *Man is a Wild Animal*. He cannot be tamed and remain Man; his genius is bound up in the very qualities which make him wild. With this self-knowledge, bleak, stern, and proud, goes the last hope of permanent peace on Earth; it makes world government unlikely and certainly unstable. Despite the fact that we are (as always) in a condition of marginal starvation, this fact makes all measures of population control futile—other than the ancient, grisly Four Horsemen, and even they are not effective; we finished World War III with a hundred million more people than when we started.

Not even the H-bomb could change our inner nature. We have learned most bloodily that the H-bomb does nothing that the stone axe did not do—and neither weapon could tame us. Man can be chained but he cannot be domesticated, and eventually he always breaks his chains.

Nor can we be "improved" by genetic breeding; it is not in

our nature to accept it. Someday we may be conquered by super-beings from elsewhere, then bred according to their notions—and become dogs, rather than wolves. (I'm betting that we will put up a fight!) But, left to our own resources, improvements in our breed must come the hard way, through survival . . . and we will still remain wild animals.

But we have barely begun to study ourselves. Now that mankind has finally learned to read and write what can we expect him to accomplish?

We have no idea today of how self-awareness is linked to protoplasm. Now that we know that the ego survives the body we should make progress on this mystery.

Personal survival necessitates *Cosmic Purpose* as a "least hypothesis" for the universe. Scientists are tending to take teleology away from theologians and philosophers and give it a shaking. But concrete results this century seem unlikely. As of now, we still don't know why we are here nor what we are supposed to do—but for the first time in history it is scientifically probable that the final answers are not null answers. It will be interesting indeed if one of the religious faiths turns out to be correct to nine decimals.

Since ESP talents seem to be independent of space-time it is theoretically possible that we may achieve a mental form of time travel. This is allowable under the mathematics being devel-

oped to describe mind phenomena. If so, we may eventually establish history, and even prophecy, as exact sciences.

On the physical side we can be certain that the speed-of-light barrier will be cracked this century. This makes it statistically likely that we will soon encounter races equal or superior to ourselves. This should be the most significant happening to mankind since the discovery of fire. It may degrade or destroy us, it may improve us; it cannot leave us unchanged.

On the mundane side we can expect a population of five billion by the middle of this century. Emigration to other planets will not affect the total here.

Scientific facts will continue to be discovered much faster than they can be classified and cross-referenced, but we cannot expect any accompanying increase in human intelligence. No doubt the few remaining illiterates will continue to be employed in the subscription departments of periodicals; the same bigmouths who now complain about rocket service to Luna (but who can't thread a needle themselves) will in 2050 be complaining about service to the stars (and they still won't be able to thread a needle).

Unquestionably the Twentieth Century will be referred to as the "Good Old Days," we will continue to view with alarm the antics of the younger generation, and we probably will still be after a cure for the common cold.

THE ETERNAL WALL

(Concluded from page 231)

repair, and a seed-drill. Outside of the machine-shop, the old, familiar yellow sun was shining. Across the street was the small brown house, where he lived.

With a sudden startlement, he saw Betty Moore in the doorway. She wore a blue dress, and a mischievous smile curved her lips. As though she had succeeded in creeping up on him, for a surprise.

"Why, Ned," she chuckled. "You look as though you've been dreaming, and just woke up!"

He grimaced ruefully as she approached. With a kind of fierce gratitude, he took her in his arms. Yes, she was just like always.

"I guess I *was* dreaming, Betty," he whispered, feeling that mighty sense of relief. "I must have fallen asleep at the bench, here, and had a nightmare. I thought I had an accident at Pit Band—and that a lot of worse things happened. . . . But it wasn't true . . ."

Ned Vince's mind, over which there was still an elusive fog that he did not try to shake off, accepted apparent facts simply.

He did not know anything about the invisible radiations beating down upon him, soothing and dimming his brain, so that it would never question or doubt, or observe too closely the incongruous circumstances that must

often appear. The lack of traffic in the street without, for instance—and the lack of people besides himself and Betty.

He didn't know that this machine-shop was built from his own memories of the original. He didn't know that this Betty was of the same origin—a miraculous fabrication of metal and energy-units and soft plastic. The trees outside were only lantern-slide illusions.

It was all built inside a great, opaque dome. But there were hidden television systems, too. Thus Loy Chuk's kind could study this ancient man—this Kaallee. Thus, their motives were mostly selfish.

Loy, though, was not observing, now. He had wandered far out into cold, sad sea-bottom, to ponder. He squeaked and chatted to himself, contemplating the magnificent, inexorable march of the ages. He remembered the ancient ruins, left by the final supermen.

"The Kaallee believes himself home," Loy was thinking. "He will survive and be happy. But there was no other way. Time is an Eternal Wall. Our archeological researches among the cities of the supermen show the truth. Even they, who once ruled Earth, never escaped from the present by so much as an instant. . . ."

THE END

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